

Department of Energy

Richland Field Office

P.O. Box 550

Richland, Washington 99352

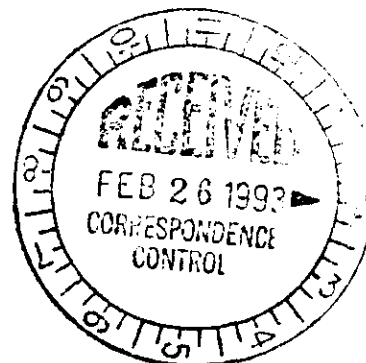
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JAN 20 1993

93-ERB-068

Mr. Paul T. Day
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352

Mr. David B. Jansen, P.E.
Hanford Project Manager
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600



Dear Messrs. Day and Jansen:

ENVIRONMENTAL RESTORATION (ER) STORAGE & DISPOSAL FACILITY (SDF): MINUTES FROM DECEMBER 18, 1992, REGULATORY STRATEGY MEETING

On December 17, 1992, the Environmental Restoration Division hosted a meeting with EPA and Ecology to present a comprehensive overview of the ER-SDF and to initiate discussions regarding the appropriate regulatory framework for the construction, operation and closure of the facility. The purpose of the letter is to transmit copies of all presentations made on December 18, 1992; document the issues identified during the presentation; and provide an initial action plan to address the major issues.

Attachment 1 provides a full set of presentation. Attachment 2 provides a listing of the attendees.

Three major categories of issues were identified and documented during the meeting. They were as follows:

1. Regulatory. The primary purpose of the meeting was to initiate discussions to decide the appropriate regulatory framework within which to regulate the construction and operation of the ER-SDF mixed-waste trenches, to wit, should ER-SDF be regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) regulations.
2. Public Involvement (Including Site Selection). The decision process for selecting the appropriate regulatory framework for the ER-SDF must include public review. This can be done in more than one process in compliance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement). Included in this category of issues is the consistency of the proposed 200 Area Site with recommendation from the recently released Final Report of the Hanford Future Site Uses Working Group, The Future For Hanford: Uses and Cleanup.

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3. Technical. Three primary issues were identified under technical. The first technical issue was the process for obtaining approval of proposed "equivalent" trench designs to meet RCRA minimum technical requirements (MTRs). The second was the procedure to provide assurance that waste streams can be accurately classified into low-level (low-activity and high activity), mixed and transuranic (TRU). The third was the process (and precedent) of approving Applicable, Relevant and Appropriate Regulations (a CERCLA process) for the design and construction of the ER-SDF.

The three parties agreed that working groups should be organized to work through the identified issues. It was decided that both EPA and Ecology will need to meet separately and then jointly to develop a consensus position on each of the issue categories.

The U.S. Department of Energy (DOE) Richland Field Office (RL) stated during the meeting that guidance, if not decisions, would be required by February 1, 1993, in order to start conceptual design by that date. Otherwise, simultaneous designs would be initiated based on all possible design alternatives.

EPA and Ecology agreed to meet separately (or jointly) during the first week of January 1993, and be in a position to meet with DOE later in January 1993.

Each agency agreed to identify a lead point of contact to work on each identified issue categories. EPA and Ecology are requested to select a lead point of contact(POC) to represent their agency and provide the names to RL. RL has assigned the following staff to be the primary POCs:

1. Regulatory: K. Mike Thompson (376-6421).
2. Public Involvement: Jon K. Yerxa (376-9628).
3. Technical: James. D. Goodenough (376-7087).

RL has started to re-evaluating the proposed 200 Area site for the ER-SDF to insure consistency with internal RL selection criteria and the recommendations of the Hanford Future Site Uses Working Group. Progress on resolving this issue will be reported to EPA and Ecology at monthly Unit Managers Meetings.

We appreciate your early involvement in working with RL in resolving the identified issues. We sincerely believe that the Tri-Party Agreement adequately provides the framework to reach agreement on these issues.

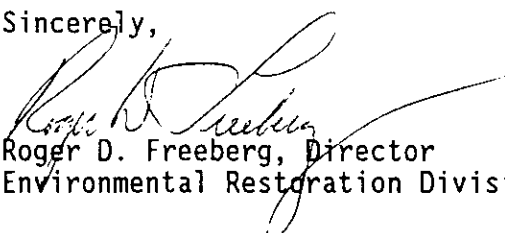
Messrs. Day and Jansen
93-ERB-068

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JAN 20 1993

Please feel free to contact me or Mr. James D. Goodenough of my staff on (509) 376-7087 if you have any questions or comments of the information provided by this letter.

Sincerely,



Roger D. Freeberg, Director
Environmental Restoration Division

ERD:JDG

Attachments: As stated

cc w/atts:

M. R. Adams, WHC
D. J. Cannon, USACE
J. L. Monhart, EM-442
R. D. Wojtasek, WHC

AGENDA

ER STORAGE AND DISPOSAL FACILITY REGULATORY NEGOTIATION STRATEGY MEETING

<u>Time</u>	<u>Activity</u>	<u>Presenter(s)</u>
9:00 am	<u>Overview and Need for ERSDF</u> <ul style="list-style-type: none">▪ DOE Goals and Objectives▪ ERSDF Concept▪ Issues from VE Study▪ Grand Junction Analog	Jim Goodenough, DOE Merl Lauterbach, WHC John Jacobson, USACE Bob Moore, WHC
9:45 am	<u>Design Presentation</u> <ul style="list-style-type: none">▪ Waste Stream Classification▪ Trench Design Alternatives▪ Waste Treatment Alternatives▪ Waste Acceptance Criteria▪ Land Disposal Restricted Waste▪ Vadose Monitoring▪ Groundwater Monitoring▪ Performance Assessment/Risk Assessment▪ Environmental Protectiveness Standards	Alan Church, WHC Frank Shuri, JMM Jack Sonnichsen, WHC Fred Roeck, WHC Mark Wood, WHC

11:30 Discussion of ERSDF ARAR Document

- Purpose of Document
- Strategy for Regulator Approval

Fred Roeck, WHC

12:00 Lunch (Local Economy)

1:15 pm Discussion of ERSDF Regulatory Framework

- Framework of TPA
- Analysis of CERCLA
- Analysis of RCRA as an ARAR
- Recommended Regulatory Framework

Patrick Willison, DOE

Barbara Williamson, WHC

Paula Davis, WHC

2:15 pm Discussion of Negotiation Strategy

- Agreement of Negotiation Process
- Discussion of Procedures and Approval Mechanism (Vehicle)

Mike Thompson, DOE

3:00 pm Break

3:10 pm Agreements, Next Actions, Mike Thompson, DOE
Schedule

- Regulator Approval of Design Concept
- Regulatory Approval of Design Impacting ARARs
- Regulator Approval of Regulatory Regime

ER STORAGE AND DISPOSAL FACILITY

PROJECT GOALS AND OBJECTIVES

Project Title. Environmental Restoration Storage and Disposal Facility (ERSDF).

Project Goal. The goal of the ERSDF project is to design, construct and initiate operation of a storage and disposal facility for waste generated from remediation of CERCLA/RCRA Past Practice Operable Units by June, 1996.

The ERSDF Project Has Multiple Objectives

Objective 1: (Legal). The ERSDF will designed, constructed and operated to meet all applicable, relevant and appropriate regulations (ARARs).

Objective 2: (Environmental). The ERSDF will be designed and constructed to operate (and be closed) as a permanent disposal facility, however will be operated during Phase I for a period not to exceed five years as an interim-action storage facility until the Hanford Remedial Action Environmental Impact Statement (HRAEIS) Record of Decision is issued. NEPA for interim-action operation will be met via an Environmental Assessment (EA) and a Finding of No Significant Impact.

The ERSDF Project Has Multiple Objectives

Objective 3: (Stakeholders). The design, construction and operation of the ERSDF project will be approved by stakeholders, to include DOE-HQ, DOE-RL, the Environmental Protection Agency and the Washington State Department of Ecology.

Objective 4: (Technical). The ERSDF project will be designed, constructed and operated in accordance with the approved Functional Design Criteria, DOE Orders, and the minimum technical requirements (MTRs) of approved ARARs (Except for approved waivers or exemptions to MTRs that provide "equivalent" protection to the environment).

Objective 5: (Performance). The ERSDF will be designed, operated and closed to meet Federal and Washington State environmental protection standards for radioactive, hazardous, dangerous, and mixed waste.

The ERSDF Project Has Multiple Objectives

Objective 6: (Safety). The ERSDF project will be constructed and operated safely in accordance with DOE Orders.

Objective 7: (Operational).

1. The ERSDF will be designed and constructed to manage only CERCLA and RCRA Past Practice Program generated waste. The disposal strategy for RCRA Closure and Decontamination and Decommissioning generated waste will be determined later by DOE.
 2. The ERSDF will only provide secondary treatment of waste streams. All primary waste treatment during remediation will be performed within the Operable Unit boundaries.
 3. The ERSDF will not store or dispose of transuranic (TRU) waste. All TRU waste will be stored at existing Hanford on-site facilities.
-

The ERSDF Project Has Multiple Objectives

Objective 8: (Schedule). The ERSDF project will support Operable Unit Expedited Response Actions (ERAs), Records of Decision, and Interim Response Measures (IRM) schedules.

Objective 9: (Financial). The ERSDF project budgets will be baselined and validated.

Objective 10: (Institutional). The ERSDF project will be managed and funded by the DOE-RL Environmental Restoration Division (ERD) and DOE-HQ, EM-40.

The ERSDF Project Has Multiple Objectives

Objective 11: (Organizational). Design and construction of the ERSDF project will be managed by a joint venture team consisting of the Hanford M & O Contractor and the U. S. Army Corps of Engineers (USACE). Operation of the ERSDF will be managed by the Environmental Restoration Management Contractor (ERMC).

Objective 12: (Location). The ERSDF project will be located on the 200-Area plateau.

Objective 13: (Site Infrastructure). The ERSDF project will utilize existing Hanford Site infrastructure and systems as available.

Objective 14: (Equipment Recycle). The ERSDF project will utilize any available excess equipment (e.g., the DOE Grand Junction Uranium Mill Tailing Remedial Action (UMTRA) Project) if economically justified.

**Environmental Restoration
Storage and Disposal Facility**

**M. J. Lauterbach
December 18, 1992**

Presentation Topics

- **Scope and Purpose of the Disposal System**
- **Proposed Site Location**
- **Components of the Disposal System**
- **Operational Approach**
- **Construction Decision Analysis**
- **Preliminary Schedule**

Scope and Purpose of the Disposal System

- To Dispose and Store All Environmental Restoration Generated Waste
- To Permanently Isolate Waste on the 200 Area Plateau
- To Support Remediation and Restoration of the Hanford Site
- Enable Realization of Land-Use Goals
 - In the Process of Determination

Components of the Disposal System (Cont.)

- **Waste Disposal Units**

- **Trenches for:**

- **Low Activity**
- **Low Activity/Mixed**
- **Hazardous/Dangerous**
- **Non-Rad/Non-Dangerous**

- **Vaults for:**

- **High Activity**
- **High Activity/Mixed**

- **Waste Storage Units for:**

- **Transuranic Waste**

Proposed Site Location

- **Initial Screening Criteria Used to Evaluate All Potential Sites on the 200 Area Plateau**
- **Three Sites Met Initial Screening Criteria and Were Evaluated in a Site Evaluation Report**
- **Final Site Chosen based on Siting Evaluation Criteria**
- **Proposed Site Yet to be Formally Approved**

Components of the Disposal System

- **Actual Site Design Will be Generated During Formal Design Process**
- **Design layout Will Include:**
 - **Waste Disposal Trenches**
 - **Vaults**
 - **Waste Storage Units**
 - **Above Grade Storage Pad**
 - **Material Handling System**
 - **Equipment Decontamination System**
 - **Personnel/Equipment Support Facilities**
 - **Groundwater/Vadose Zone Monitoring System**

Operational Approach

- **Classification and Containerization of Waste at Remediation Site**
- **Transport by Rail/Truck System in Reusable and Non-Reusable Containers**
- **Off-Loaded to Truck or Container Handling Equipment**
- **Dispatched to Disposal or Storage Unit**
- **Decontamination of Reusable Containers and Transporters**

Construction Approach

- **Waste Type/Volume Estimated Based on Existing Data**
- **Initial Construction phased to Meet Initial Five-Year Projection**
- **Subsequent Waste Disposal/Storage Units Constructed as Needed**

Waste Type and Volume Estimate

Assumptions -

- WIDS - Process and Historical Information
- Specific Waste Plume Geometry for a Given Waste Unit
- Removal Action Will be the Chosen Remedial Alternative (100 and 300 Areas)
- Two Separate Land-Use Scenarios - use bounding case of general use
- Will be Continually Updated as New Information is Received

Waste Type and Volume Estimate (Continued)

Volumes -

(Initial Phase)

- Five-Year Operation
 - 100 B/C ~ 3.5 Million Bank Cubic Yards
 - IRM's - ERA's
- Significant Portion Will be Low Activity Only

(Long Term Phase)

- Complete by 2018 ~ 30 Million Bank Cubic Yards

Preliminary Schedule

Engineering and Construction -

- Functional Design Criteria Completed
January 31, 1992
- Conceptual Design Report Completed
September 30, 1993
- Definitive Design Effort Completed
September 30, 1994
- Procurement Initiated to Support Construction
Schedule Based on CDR
- Disposal/Storage Units Operational as Early as Third
Quarter of 1996

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VALUE ENGINEERING STUDY

OF THE

ENVIRONMENTAL RESTORATION

STORAGE AND DISPOSAL FACILITY

THE HANFORD ENVIRONMENTAL RESTORATION PROGRAM

RICHLAND, WASHINGTON

Value Engineering Study

PRESENTATION CONTENTS

- PROJECT OVERVIEW
- STUDY OVERVIEW
- CONCLUSIONS
- RECOMMENDATIONS

Value Engineering Study Overview

PRESENTATION CONTENTS

- **Techniques and Tools**
- **Team Membership**
- **Purpose**
- **Initial Concerns**

Value Engineering Study Overview

TECHNIQUES AND TOOLS

FAST DIAGRAMMING

- The Big Picture
- Function Analysis
- Functional Interrelationships
- The Basis for Exploration

Value Engineering Study Overview

TECHNIQUES AND TOOLS

PARTNERING

- Team Building
 - Mutual Trust and Respect
 - Effective Communications
 - Common Understanding

All Voices With a Vested Interest Heard and Understood

Value Engineering Study Overview

WHO ARE THE PARTNERS?

- **Environmental Protection Agency**
- **Washington State Department of Ecology**
- **Department of Energy**
- **Environmental Division,
Westinghouse Hanford Company**
- **Corps of Engineers**
- **James M. Montgomery Consulting Engineers**

Value Engineering Study Overview

PURPOSE

- **Evaluate the Adequacy of the FDC Document**
- **Identify Additional Functions and Requirements**
- **Address Certain Questions**

Value Engineering Study Overview

PURPOSE

- - Address Questions:

Design Flexibility.

Compliance with RCRA.

Characterize Design Elements as Low Risk and High Risk.

Identify Areas of the Project which have to be Managed in a Special Way.

Can the Waste Acceptance Criteria be Specified?

Are Linkages Properly Addressed?

De-Couple Closure and Post-Closure from Design.

Placement of High Level Waste.

INITIAL CONCERNS

- **Waste Streams into Facility.**
- **Waste Streams Emanating from Facility.**
- **Schedule.**
- **Permitting.**
- **Systems Interfaces.**
- **Interface with State Facility.**
- **Differing Waste Acceptance Criteria.**

Value Engineering Study Overview

INITIAL CONCERNS

- **FDC Covers Entire Life Cycle Design**
- **Better Definition of Phasing.**
- **Joint WHC/COE Venture.**
- **New DOE Orders on Safety.**
- **Interim Cover.**
- **Incidental Waste.**
- **Handle Waste by Other Means/Sites.**

Value Engineering Study Overview

INITIAL CONCERNS

- **Permitting Strategy.**
- **Transportation.**
- **Walk-Away Facility.**
- **Computer Tracking System.**
- **Support Facilities.**

Value Engineering Study Conclusions

FDC Evaluation:

- **Basic Functional Concepts are Sound**
- **Adequate to Proceed Once Modified**
- **Buy-In has been Achieved**

Value Engineering Study Conclusions

Can Design be Made Flexible Enough to Allow for Mid Course Changes as Needed?

- **Yes**
- **Will Eventually Become Inflexible Due to Schedule Impact**
- **Flexibility Lies in Trench Width, Length, Depth**
- **Must Address Waste Streams Adequately**

Value Engineering Study Conclusions

Can the Waste Acceptance Criteria be Specified?

- **Conceptually Specified**
 - **Only ER Generated Waste**
 - **Treatment Prior to Arrival**
 - **No Land Ban Waste**
 - **Some Dewatering at Disposal Site**
- **Potential Impacts**
 - **Performance Assessment**
 - **Risk Assessment**

Value Engineering Study Conclusions

Are the linkages such as waste streams, Operable Unit Record of Decision, D & D Integration, etc., properly addressed in the FDC?

- | | |
|----------------------------|-----|
| • WASTE STREAMS | YES |
| • OU ROD | YES |
| • D & D INTEGRATION | YES |
| • TANK FARMS (D&D) | YES |
| • TRANSPORTATION/PACKAGING | YES |

Value Engineering Study Conclusions

Can the Closure and Post-Closure issue be decoupled from the design effort?

- **NO**

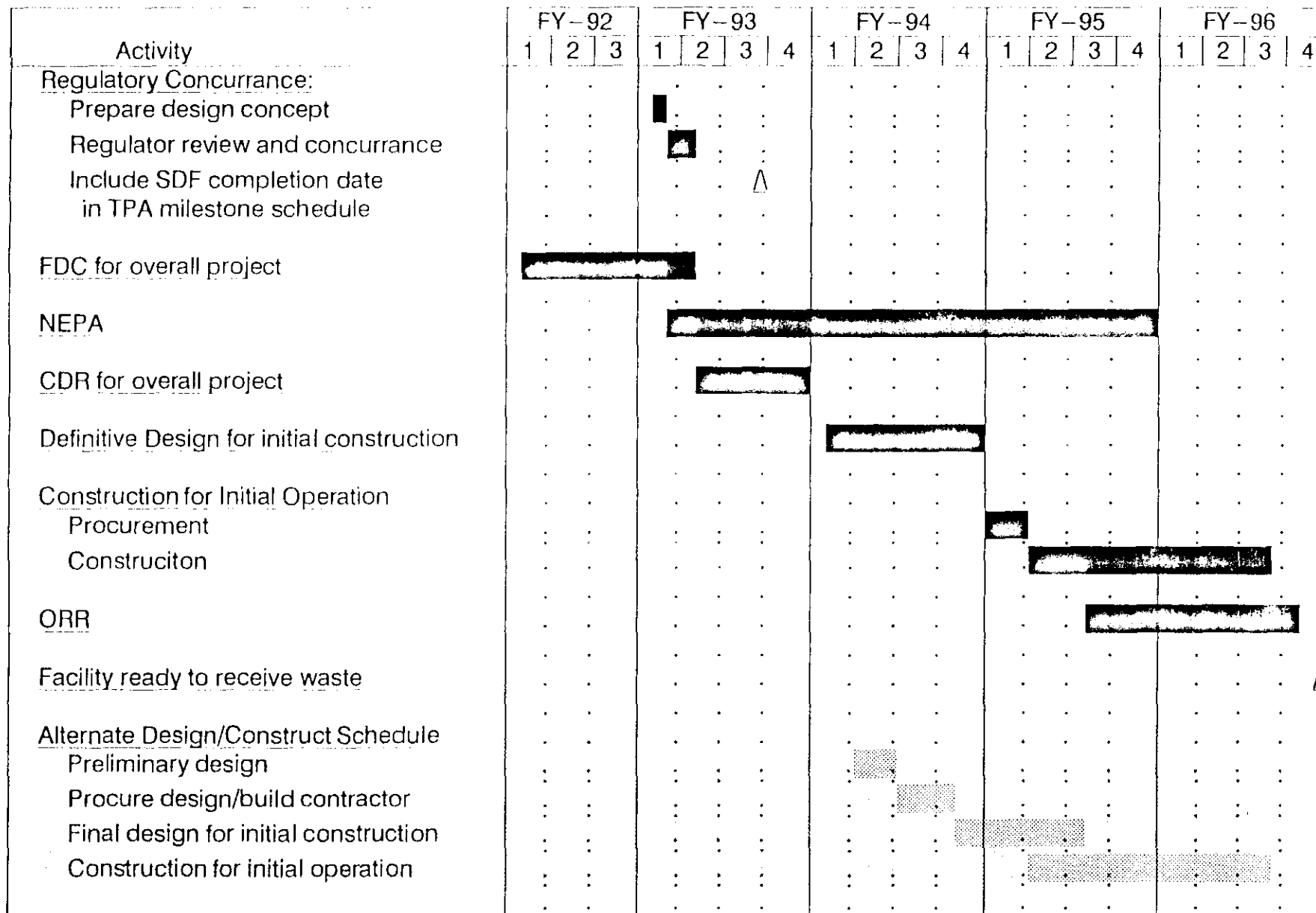
- **CLOSURE AND POST-CLOSURE MUST BE
ADDRESSED IN THE DESIGN**

Value Engineering Study Conclusions

Schedule Realism

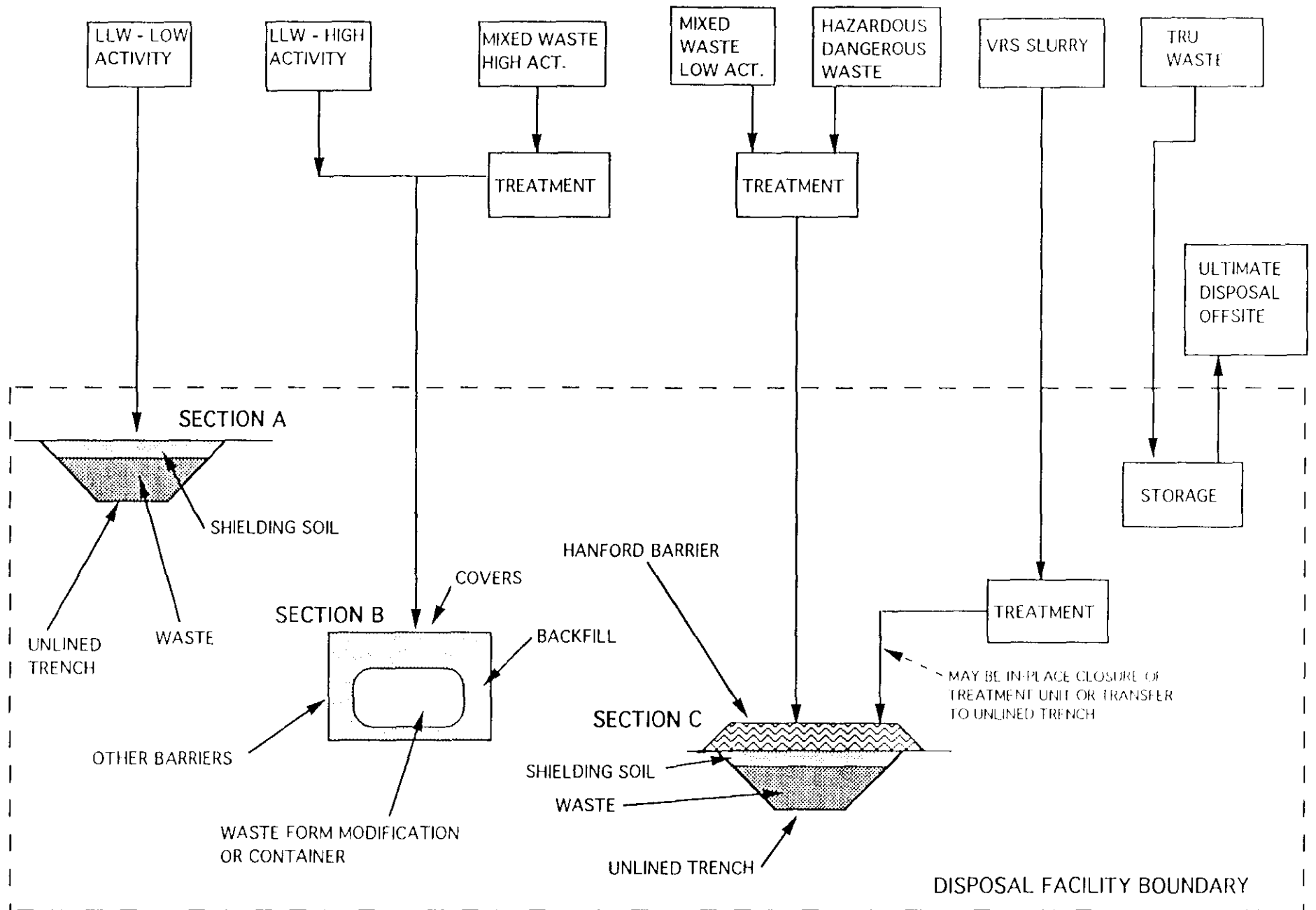
- **Realistic**
- **Tight**
- **No Float**

ENVIRONMENTAL RESTORATION STORAGE and DISPOSAL FACILITY PROJECT SCHEDULE



WASTE STREAM CLASSIFICATIONS

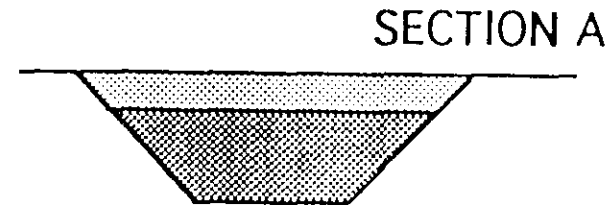
- * LOW-LEVEL RAD WASTE LOW ACTIVITY
HIGH ACTIVITY
- * MIXED LLW AND HAZ WASTE LOW ACTIVITY
HIGH ACTIVITY
- * HAZARDOUS WASTE
- * TRU WASTE
- * VOLUME REDUCTION SYSTEM (VRS) SLURRY



HANFORD ERSDF

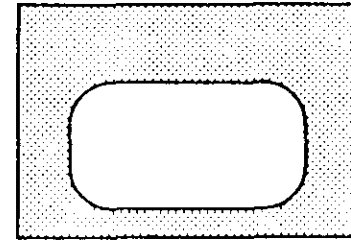
WASTE TYPES AND DISPOSAL METHODS

TRENCH TYPE A



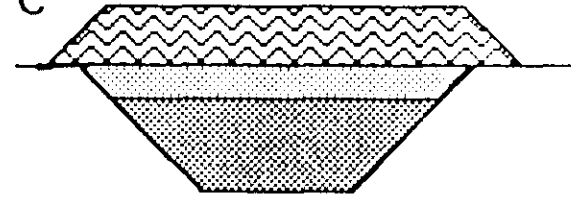
- * LARGEST FRACTION OF WASTE (APPROX. 80%)
- * UNLINED TRENCH WITH THICK SOIL COVER
- * ACCEPTS ONLY LOW ACTIVITY LLW
- * RADIONUCLIDE INVENTORY LIMITED BY WASTE ACCEPTANCE CRITERIA (WAC)
- * PA USED TO DETERMINE WAC:
ACCEPTABLE RELEASE LIMITS
WITH PROPOSED DESIGN

SECTION B

TRENCH TYPE B

- * SMALL FRACTION OF WASTE (APPROX. 5%)
- * ENGINEERED BARRIERS FOR ENHANCED PROTECTION:
HANFORD BARRIER, WASTE FORM, VAULTS,
BACKFILL, GROUT, CONTAINERS, OTHER
- * ACCEPTS HIGH ACTIVITY LLW
- * LLW NOT MEETING WAC FOR TRENCH A WILL BE
REASSIGNED TO MORE PROTECTIVE TRENCH B
- * PA WILL BE USED TO SELECT ACTUAL DESIGN
(DEGREE OF PROTECTION)

SECTION C

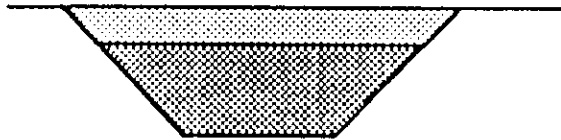


TRENCH TYPE C

- * ESTIMATED 15% OF WASTE
- * UNLINED TRENCH WITH INTERIM COVER AND HANFORD BARRIER
- * ACCEPTS HAZARDOUS AND LOW ACTIVITY MIXED WASTE
(LDR-CATEGORY WASTE WHICH IS NOT EXEMPTED WILL BE APPROPRIATELY TREATED PRIOR TO DISPOSAL OR SENT TO AN AUTHORIZED TSD FACILITY)
- * SYSTEM PERFORMANCE WILL EXCEED PERFORMANCE OF CONVENTIONAL RCRA DESIGN

SUMMARY OF TRENCH TYPES

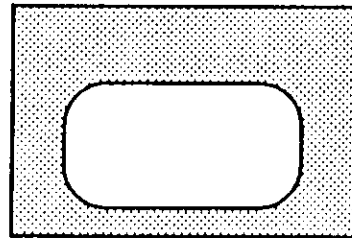
TRENCH A



80%
OF WASTE

24,000,000
CUBIC YARDS

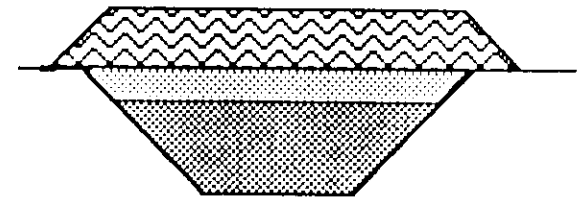
TRENCH B



5%
OF WASTE

1,500,000
CUBIC YARDS

TRENCH C



15%
OF WASTE

4,500,000
CUBIC YARDS

TRENCH TYPE C: RCRA EQUIVALENCY

OBJECTIVES OF RCRA:

- * PREVENT RELEASE OF WASTE TO THE ENVIRONMENT
- * PREVENT INTRUSION INTO THE WASTE MASS
- * MINIMIZE LEACHATE INFILTRATION SO THAT
GROUNDWATER PROTECTION STANDARD
IS NOT VIOLATED

ERSDF WILL SATISFY THE OBJECTIVES OF RCRA

CONVENTIONAL RCRA APPROACH

- * NO CREDIT FOR FAVORABLE SITE CHARACTERISTICS
- * LAND DISPOSAL RESTRICTIONS FOR WAC
- * DOUBLE LINER SYSTEM
- * COMPOSITE CLOSURE COVER
- * 30 YEAR DESIGN LIFE
- * NO PERFORMANCE EVALUATION
- * GROUNDWATER MONITORING

RCRA FLEXIBILITY

- * BOTH RCRA AND CERCLA RECOGNIZE THAT CONVENTIONAL APPROACH MAY NOT BE APPROPRIATE FOR ALL ENVIRONMENTS
- * REGULATIONS ALLOW DEPARTURE FROM CONVENTIONAL DESIGN BASED ON EQUIVALENT PERFORMANCE

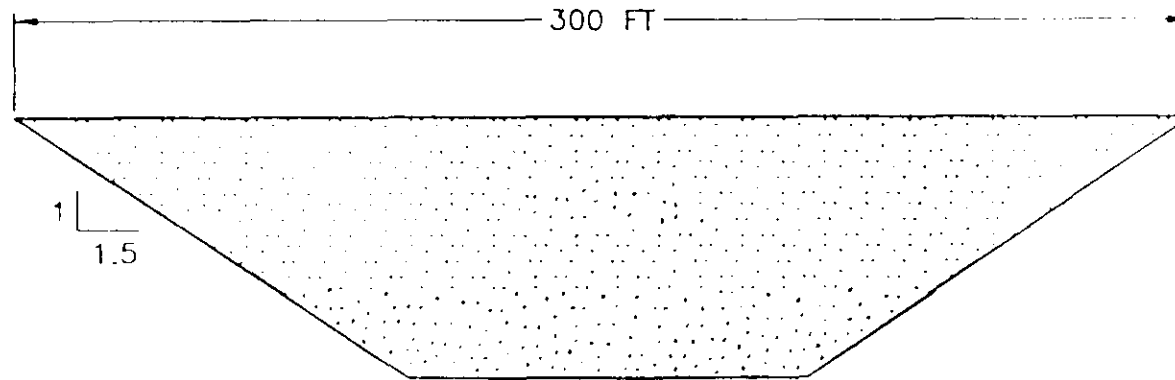
ERSDF APPROACH FOR TRENCH C (H/M WASTE)

- * ARID SITE (6" RAINFALL PER YEAR)
THICK VADOSE ZONE (150 – 200 FT)
- * ONLY "DRY" WASTE PLACED IN TRENCH (WAC)
- * INFILTRATION CONTROL DURING CONSTRUCTION
- * HIGH-PERFORMANCE, MULTIPLE-LAYER PERMANENT
COVER (HANFORD BARRIER)
- * LESS AREA REQUIRED FOR SITE
- * DESIGN FOR LONG-TERM CONTAINMENT
(100s TO 1000s OF YEARS)
- * DESIGN EVALUATED BY PERFORMANCE ASSESSMENT
(DOE 5820.2A) AND RISK ASSESSMENT (TPA 2903)
- * VADOSE ZONE AND GROUNDWATER MONITORING

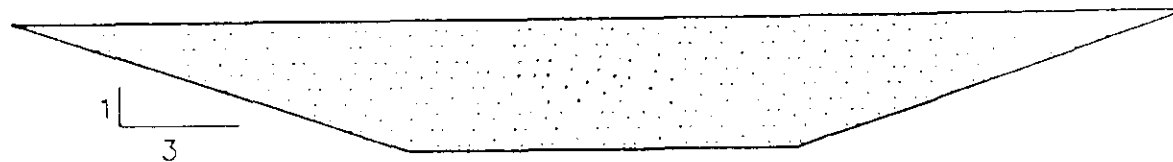
ARID SITE

- * LOW RAINFALL + HIGH EVAPOTRANSPIRATION
= LITTLE INFILTRATION
- * THICK UNSATURATED VADOSE ZONE RESULTS IN
LONG TRANSIT TIME TO GROUNDWATER
(100s OF YEARS)
- * DESICCATION AND CRACKING OF RCRA CLAY LINERS
AND COVERS ARE PROBLEMS WHICH CAN
BE ELIMINATED WITH ALTERNATIVE DESIGN

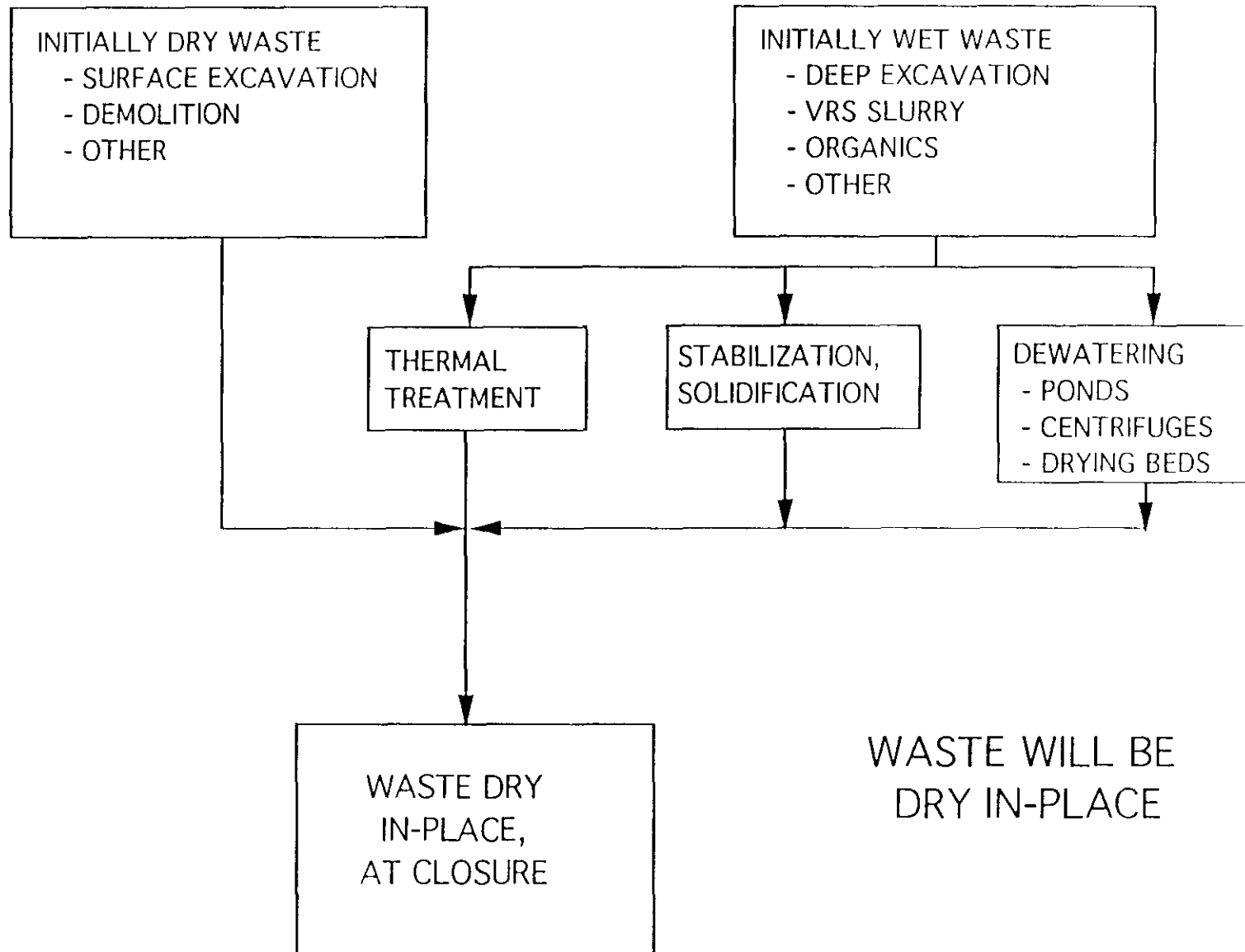
COMPARISON OF AREA REQUIREMENTS FOR TYPE C TRENCHES

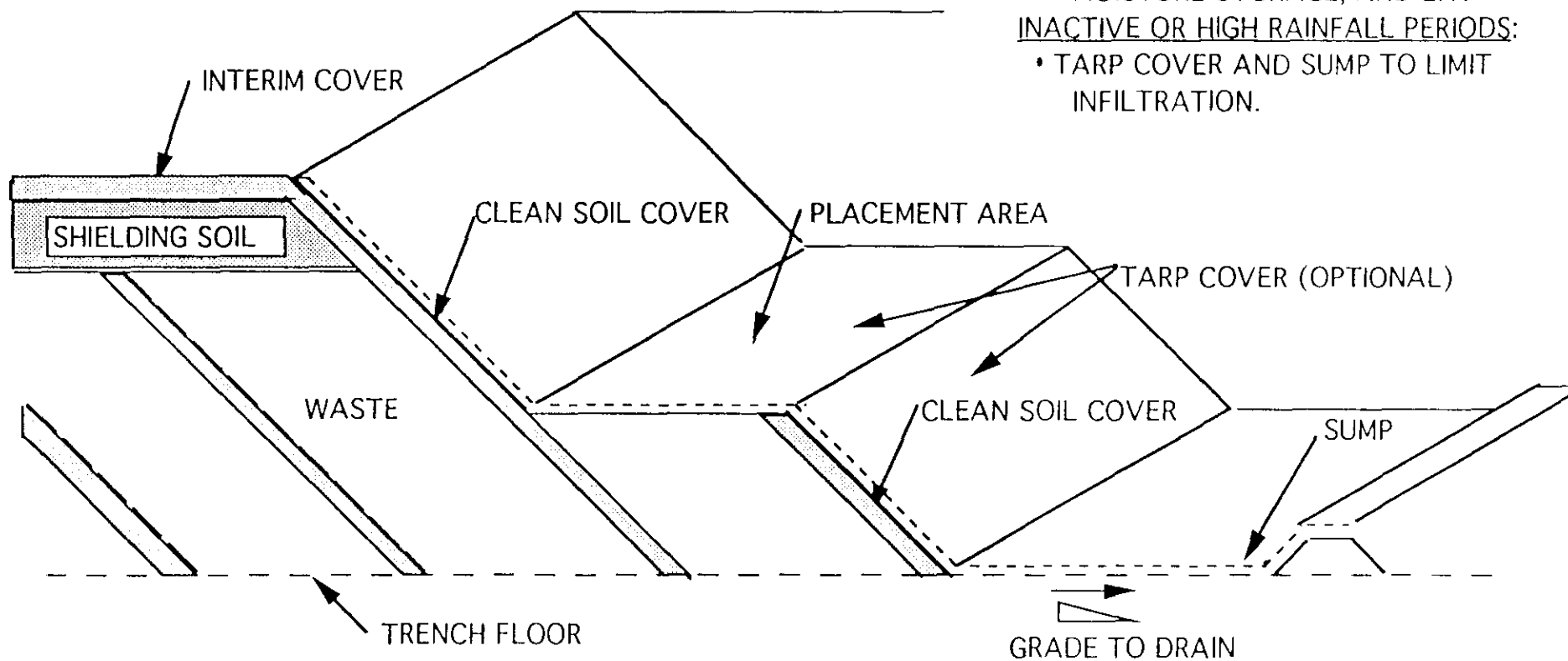


ERSDF TRENCH: 500 CU YD PER LINEAL FOOT
LAND SURFACE: 65 ACRES



RCRA TRENCH: 250 CU YD PER LINEAL FOOT
LAND SURFACE: 130 ACRES





NORMAL OPERATING CONDITIONS:

- CLEAN SOIL FOR DUST CONTROL, MOISTURE STORAGE, AND E.T.

INACTIVE OR HIGH RAINFALL PERIODS:

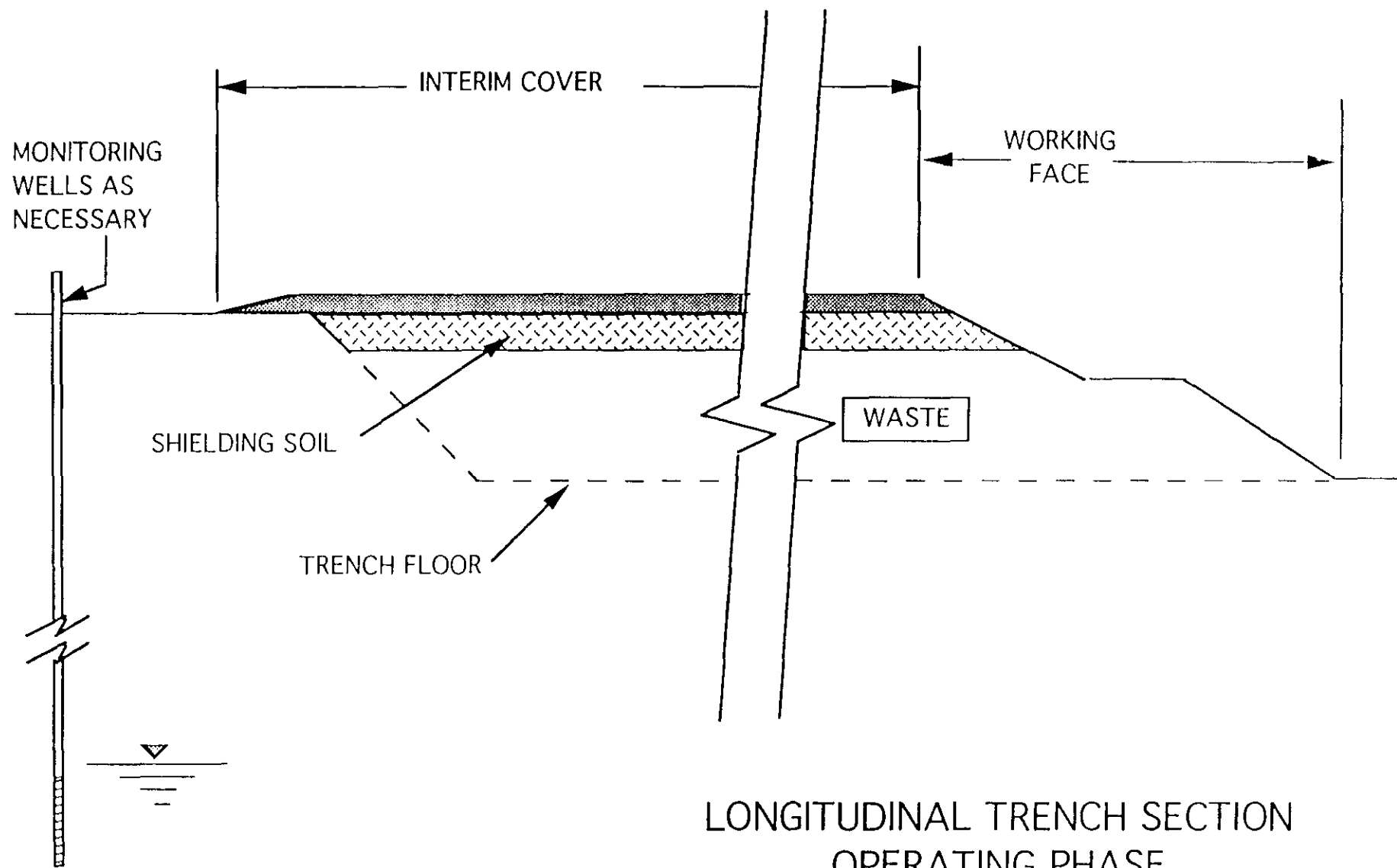
- TARP COVER AND SUMP TO LIMIT INFILTRATION.

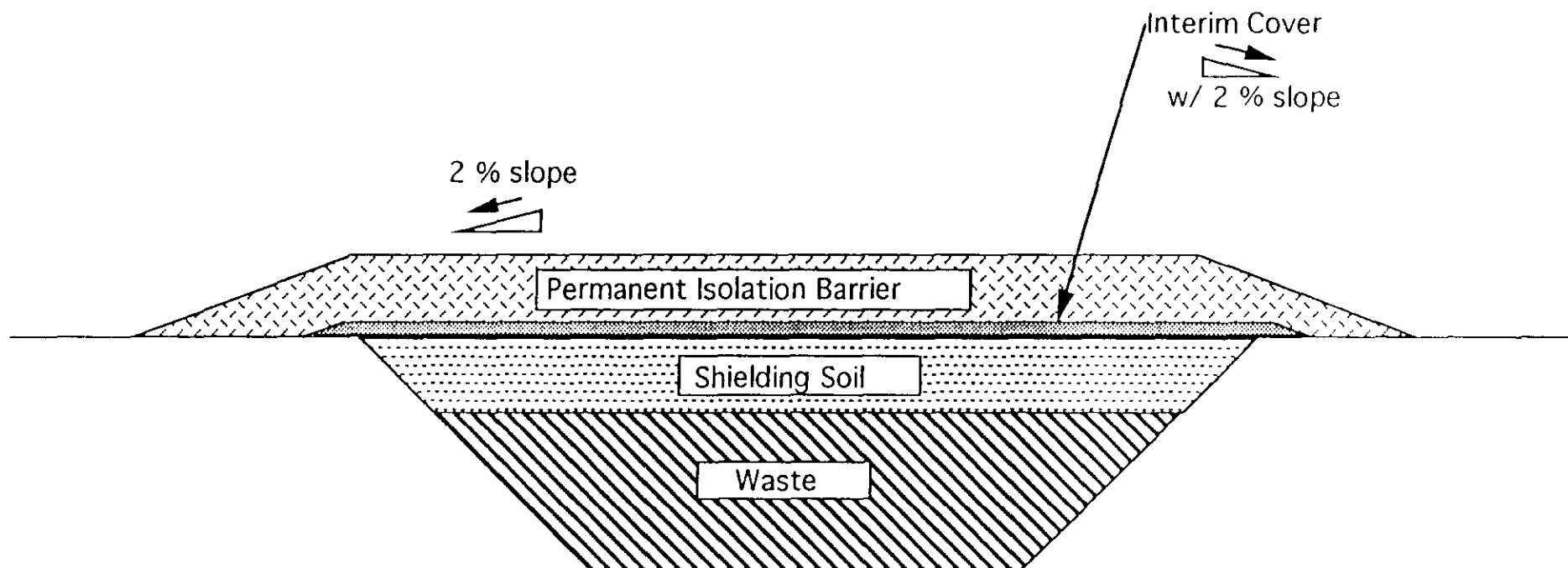
WORKING FACE DETAIL

(ISOMETRIC VIEW - ACCESS RAMPS NOT SHOWN)

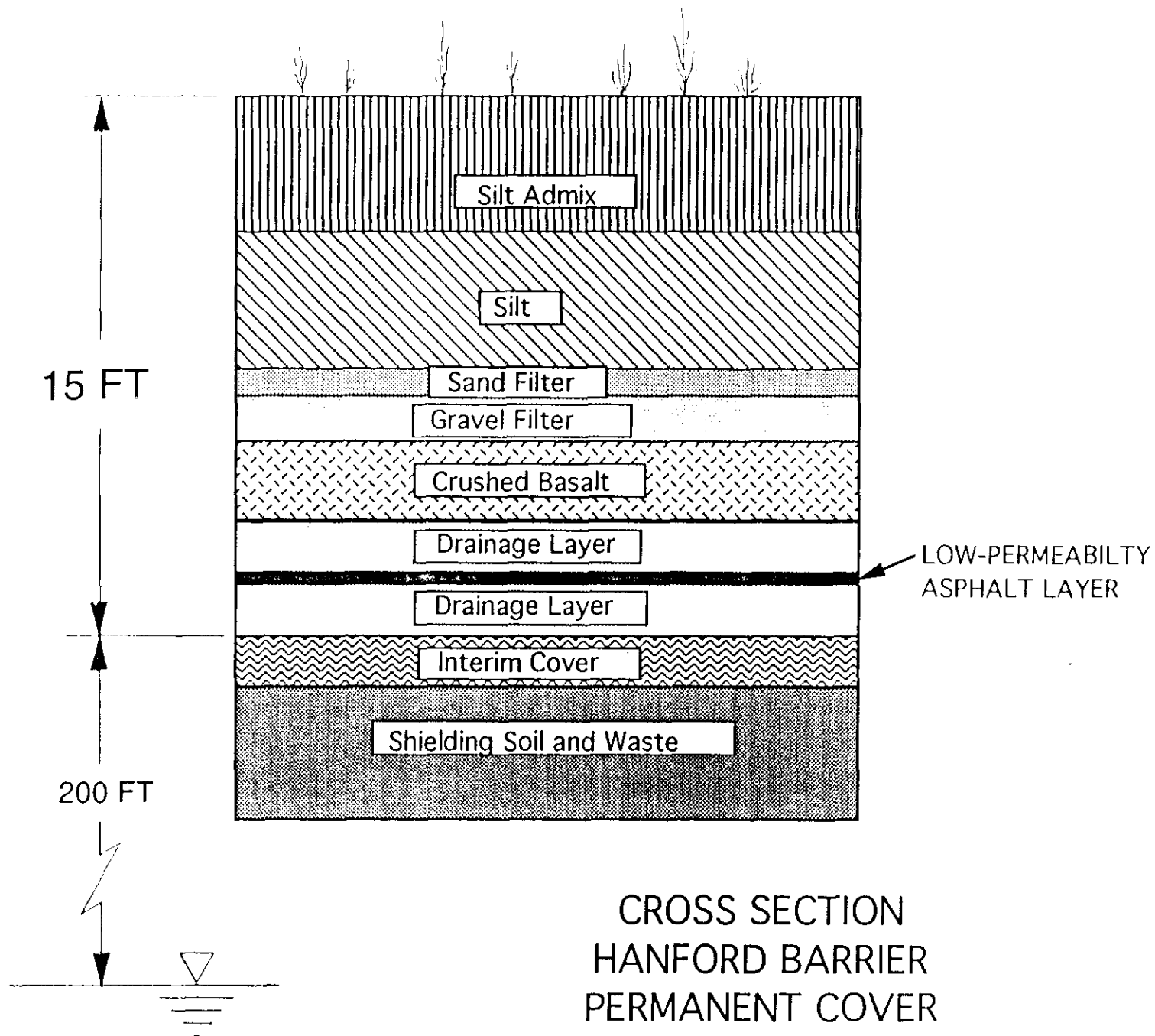
INTERIM COVER DESIGN WILL DEPEND
ON DURATION OF USE

- * SHORT-TERM (< 1 YR) INTERIM COVER WILL PREVENT DUST EMISSIONS BY USING CLEAN SOIL LAYER
- * LONG-TERM (> 1 YR) INTERIM COVER WILL CONTROL INFILTRATION USING LOW-PERMEABILITY LAYER(S)





TRENCH CROSS SECTION
PERMANENT CLOSURE PHASE

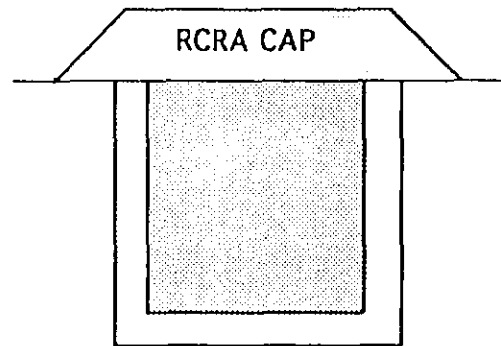


MODELLING IS USED TO SHOW
LONG-TERM SYSTEM EQUIVALENCY

- * MODELLING DONE FOR RCRA COVER AND HANFORD BARRIER, WITH AND WITHOUT RCRA LINER
- * HANFORD BARRIER PRODUCES LOWER RELEASES THAN RCRA COVER
- * PRESENCE OR ABSENCE OF LINER IS NOT SIGNIFICANT (NO APPRECIABLE BENEFIT)

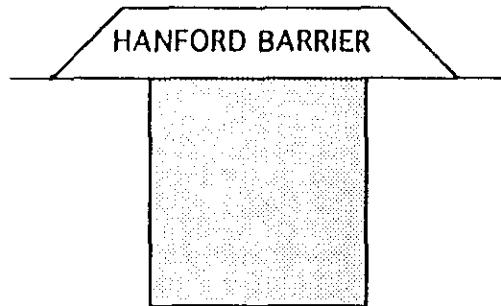
CASES CONSIDERED

CASE 1:



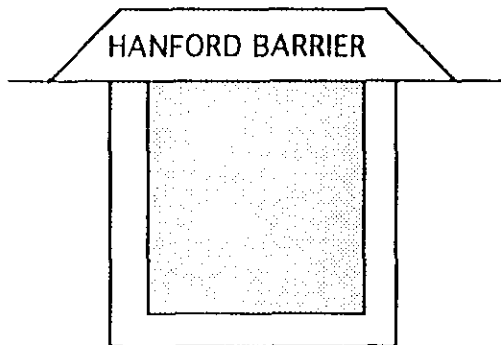
- LINER
- RECHARGE = 10^{-7} CM/S

CASE 2:



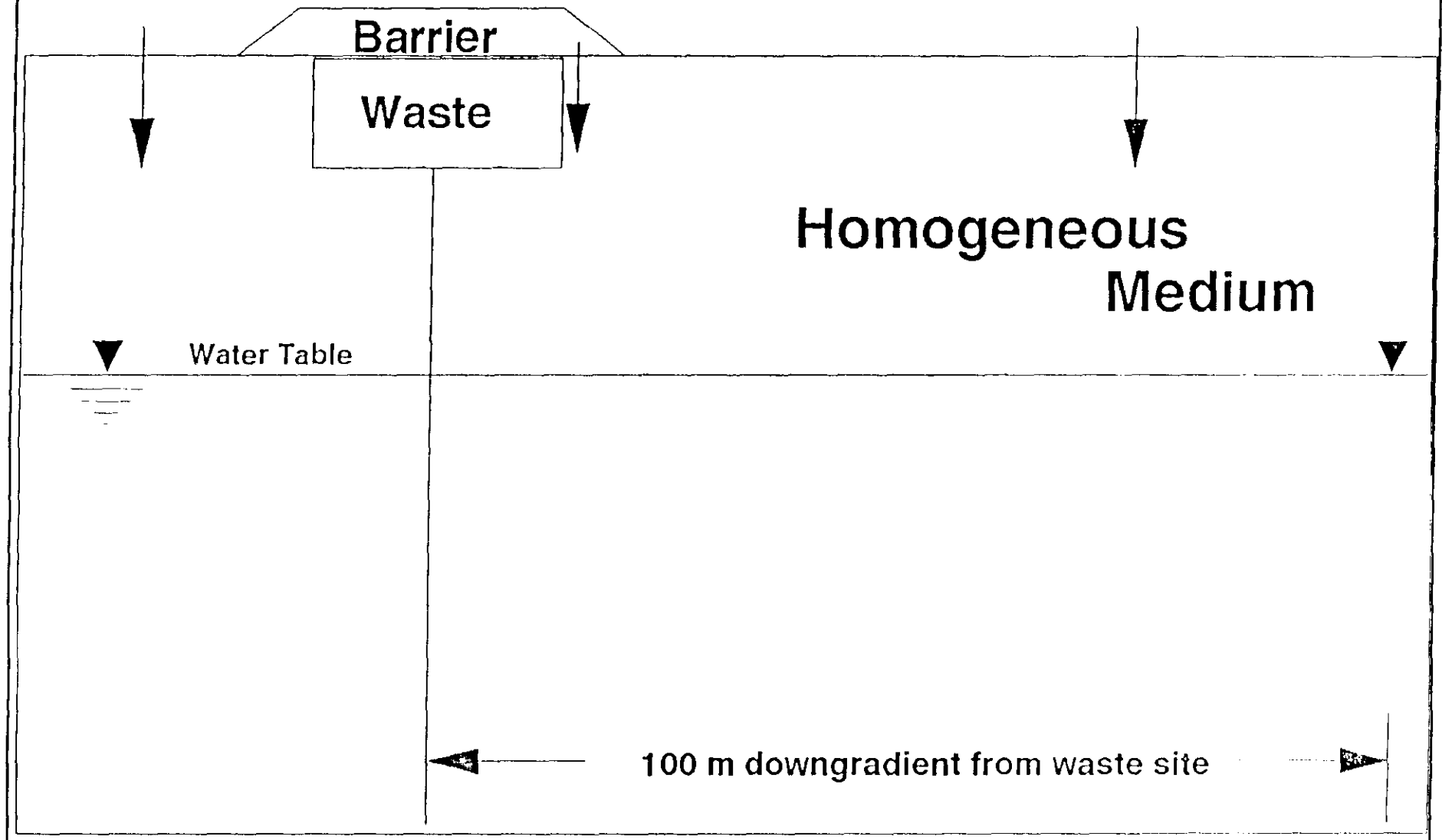
- NO LINER
- RECHARGE = 10^{-8} CM/S
BELOW BARRIER &
 10^{-7} CM/S OUTSIDE
BARRIER

CASE 3:



- LINER
- RECHARGE = 10^{-8} CM/S
BELOW BARRIER &
 10^{-7} CM/S OUTSIDE
BARRIER

Conceptual Model for All Cases

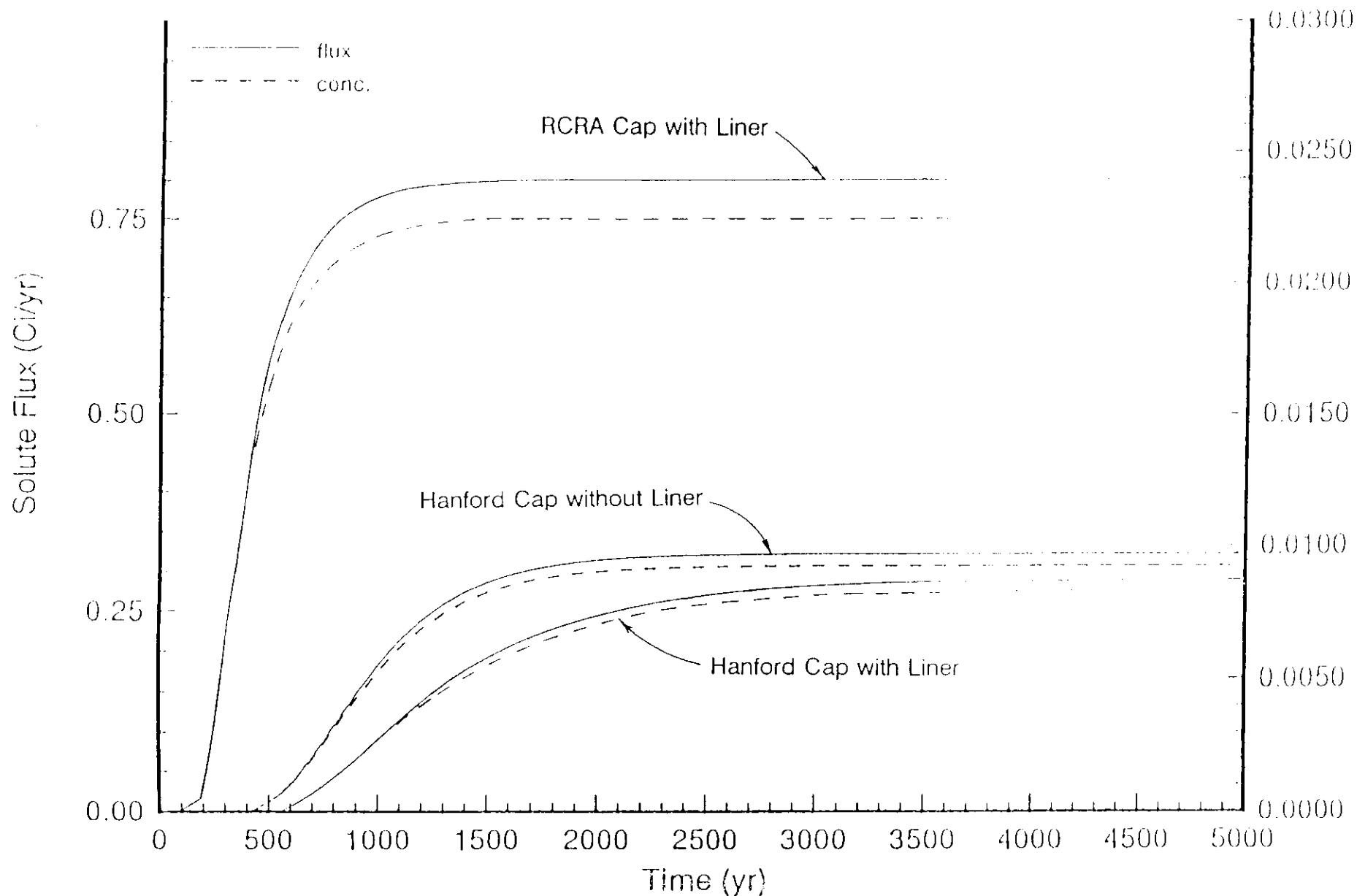


ASSUMPTIONS

- INFILTRATION RATES (10^{-8} TO 10^{-7} CM/SEC)
REPRESENT EFFECTIVE RATES AVERAGED OVER
ENTIRE THICKNESS OF BARRIER AND LONG PERIODS
OF TIME, E.G., 500 TO 1000 YEARS
- * SOLUBILITY OF CONTAMINANT IS ASSUMED TO BE
1 Ci/M³, AND SOLUBILITY LIMIT IS ASSUMED
TO BE REACHED INSTANTANEOUSLY
- * NO CREDIT FOR CONTAMINANT / SOIL INTERACTION,
I.E., RETARDATION FACTOR = 1.0,
OR DISTRIBUTION COEFFICIENT $K_d = 0.0$
- * NO CREDIT FOR ANISTROPY IN VADOSE ZONE
(ASSUMED TO BE UNITY) AND MIXING WITH
GROUNDWATER RESULTS ONLY FROM
HYDRODYNAMIC DISPERSIVITY

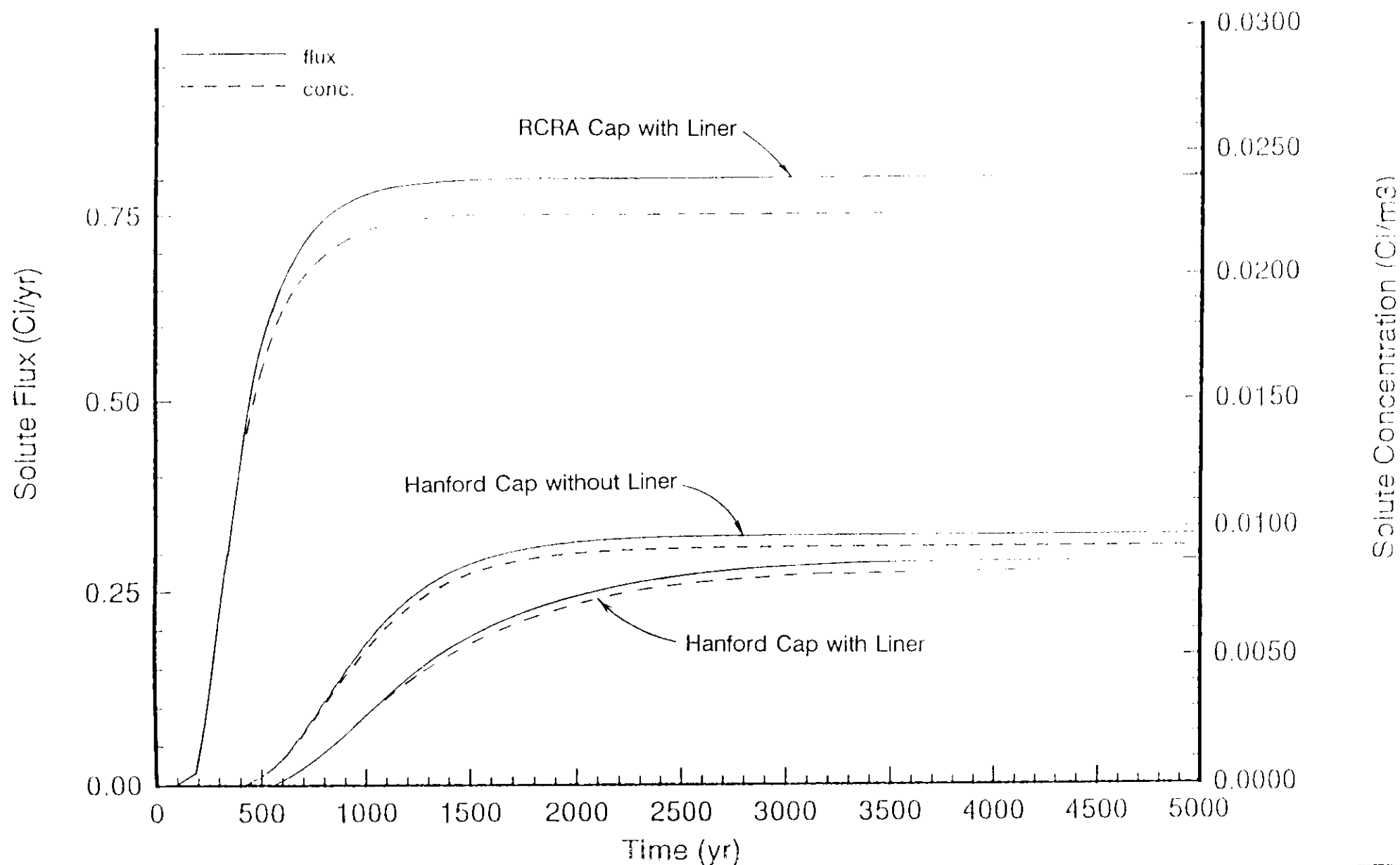
Total Flux and Concentration at Vertical Boundary

100 meters from edge of W5 trench



Total Flux and Concentration at Vertical Boundary

100 meters from edge of W5 trench



CONCLUDING COMMENTS

- * MODELLING UNDERESTIMATED HANFORD BARRIER PERFORMANCE, SINCE EFFECTIVE RECHARGE IS EXPECTED TO BE LESS THAN 0.5 CM/YR (10-8 CM/SEC)
- * MODELLING OVERESTIMATED RCRA COVER AND LINER PERFORMANCE, SINCE THIS SYSTEM WILL PROBABLY NOT LAST SEVERAL HUNDRED YEARS
- * THE LINER ONLY marginally AUGMENTS THE PERFORMANCE OF THE HANFORD BARRIER

BARRIER PERFORMANCE

- * ASSUMED PERFORMANCE FOR ANALYSIS:
10⁻⁸ CM/SEC (APPROX 0.5 CM/YR)
- * DESIGN GOAL FOR BARRIER PROTOTYPE:
10⁻⁹ CM/SEC (APPROX 0.05 CM/YR)
- * EXPECTED PERFORMANCE WITH ALL
FUNCTIONING COMPONENTS: 0.0 CM/SEC

ERSDF ARAR IDENTIFICATION

Purpose

- Identify requirements necessary to incorporate into the design, construction and operation of the ERSDF
- Provide a mechanism for concurrence among the three parties for the pertinent ARARs to be addressed
- Ensure all requirements are identified during the early phases of the project to minimize risk
- Provide a baseline from which to proceed

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ERSDF ARAR IDENTIFICATION

Proposed Mechanism

- Provide preliminary list of ARARs related to the ERSDF
- Regulators review and provide comments on ARAR list
- Comments resolved and incorporated into subsequent ARAR document
- Draft ARAR document issued

SUMMARY

- The list represents a "first cut" at those ARARs related specifically to the ERSDF
- A short term goal is to gain concurrence on those ARARs that may be design impacting
- Identification of design impacting ARARs are needed to move to the conceptual design phase

ERSDF ARAR SCHEDULE

PRELIMINARY ARAR LIST PROVIDED

12/17



REGULATORY REVIEW

12/31



COMMENTS RESOLVED

1/15



DRAFT ARAR DOCUMENT ISSUED

2/1



Project:	FRERSAS	Date:	16 Dec 92	07:10
ERS OF ARAR SCHEDULE				
Page: 1 of 1	Drawn by:	Steve J. Sakey	6-3092	

Table 1A
Potential Federal ARARs
Chemical-Specific

Description	Citation	Requirements
Clean Air Act, as amended	42 U.S.C. 7401 et seq.	A comprehensive environmental law designed to regulate any activities that affect air quality, providing the national framework for controlling air pollution.
Radionuclide Emissions from DOE Facilities (except Airborne Radon-222)	40 CFR §61.92	Prohibits emissions of radionuclides to the ambient air exceeding an effective dose equivalent of 10 mrem per year.
Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA)	42 U.S.C. 6901 et seq.	Establishes the basic framework for federal regulation of solid and hazardous waste.
Criteria for Classification of Solid Waste Disposal Facilities and Practices	40 CFR §257.3-4	A facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary.
Groundwater Protection Standards	40 CFR §264.92 [WAC 173-303-645]*	A facility shall not contaminate the uppermost aquifer underlying the waste management area beyond the point of compliance, which is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated area. The concentration of certain chemicals shall not exceed background levels, certain specified maximum concentrations, or alternate concentration limits, whichever is higher.
Land Disposal Restrictions	40 CFR Part 268 [WAC 173-303-140]	Generally, prohibits placement of restricted RCRA hazardous wastes in land-based units such as landfills, surface impoundments, and waste piles.
Treatment Standards	40 CFR §§268.40 - 268.44 [WAC 173-303-140]	Establishes treatment standards which, when met, allow land disposal or storage of restricted wastes.
Toxic Substances Control Act	15 U.S.C. 2601 et seq.	
Regulation of Polychlorinated Biphenyls (PCB)	40 CFR Part 761	Establishes prohibitions of, and requirements for, management of PCBs and PCB items from manufacturing through disposal.

*These are State of Washington regulatory citations which are equivalent to Title 40 Code of Federal Regulations, Parts 264 and 268 as stated in Washington Administrative Code 173-303.

Table 1A (Continued)
Potential Federal ARARs
Chemical-Specific

Description	Citation	Requirements
Storage and Disposal	40 CFR §§761.60 - 761.79	Requires specified methods of storage and disposal of PCBs in concentrations exceeding 50 ppm. Methods vary depending on the type of PCB waste.

Table 1B
Potential State ARARs
Chemical-Specific

Description	Citation	Requirements
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Table 1C
Potential TBCs
Chemical-Specific

Description	Citation	Requirements
Benton-Franklin-Walla Walla Counties Air Pollution Control Authority	General Regulation 80-7	
Maximum Permissible Emissions	Section 400-040	Prohibits emission of air contaminants for more than 3 minutes/hour when emissions at or near the emission source exceed 20 percent opacity, except under special circumstances.
U.S. Department of Energy Orders		
Radiation Protection of the Public and the Environment	DOE 5400.5	Establishes radiation protection standards for the public and environment.
Radiation Dose Limit (All Pathways)	DOE 5400.5, Chapter II, Section 1a	The exposure of the public to radiation sources as a consequence of all routine DOE activities shall not cause, in a year, an effective dose equivalent greater than 100 mrem from all exposure pathways, except under specified circumstances.
Radiation Dose Limit (Drinking Water Pathway)	DOE 5400.5, Chapter II, Section 1d	Provides a level of protection for persons consuming water from a public drinking water supply operated by DOE so that persons consuming water from the supply shall not receive an effective dose equivalent greater than 4 mrem per year. Combined radium-226 and radium-228 shall not exceed $5 \times 10^6 \mu\text{Ci/mL}$ and gross alpha activity (including radium-226 but excluding radon and uranium) shall not exceed $1.5 \times 10^4 \mu\text{Ci/mL}$.

Table 3A
Potential Federal ARARs
Action-Specific

Description	Citation	Requirements
Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA)	42 U.S.C. 6901 et seq.	Establishes the basic framework for federal regulation of solid waste. Subpart C of RCRA controls the generation, transportation, treatment, storage, and disposal of hazardous waste through a comprehensive "cradle to grave" system of hazardous waste management techniques and requirements.
Guidelines for Thermal Processing of Solid Wastes	40 CFR Part 240	Sets guidelines for thermal processing of solid wastes
Identification and Listing of Hazardous Waste	40 CFR Part 261 [WAC 173-303-016]	Identifies by both listing and characterization, those solid wastes subject to regulation as hazardous wastes under Parts 261-265, 268, and 270.
Standards Applicable to Generators of Hazardous Waste	40 CFR Part 262 [WAC 173-303]	Describes regulatory requirements imposed on generators of hazardous wastes who treat, store, or dispose of the waste on-site.
General Requirements	40 CFR §262.20 [WAC 173-303-180]	Generators who transport hazardous waste for off-site treatment, storage, or disposal must originate and follow-up the manifest for off-site shipments.
Packaging	40 CFR §262.30 [WAC 173-303-190]	Before transporting a hazardous waste, the generator must package, label, mark, and placard the shipment in accordance with DOT regulations.
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	40 CFR Part 264 [WAC 173-303]	Establishes requirements for operating hazardous waste treatment, storage, and disposal facilities.
General Facility Standards	40 CFR §§264.10-264.18 [WAC 173-303-060; 173-303-310; 173-303-320; 173-303-330]	Security fences, EPA ID number, inspection records, personnel training, geologic location standards.
Preparedness and Prevention	40 CFR §§264.30-264.37 [WAC 173-303-340]	Facility design; required equipment; testing and maintenance of equipment; alarms and access to communications; required aisle space; agreements with state emergency response teams, equipment suppliers; facility tours for fire and police department.
Contingency Plan and Emergency Procedures	40 CFR §§264.50-264.56 [WAC 173-303-350; 173-303-360]	Written plans for emergency procedures and named coordinator.

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Table 3A (Continued)
Potential Federal ARARs
Action-Specific

Description	Citation	Requirements
Ground-water Monitoring	40 CFR §§264.97- 264.99 [WAC 173-303-645]	Owners and operators of new hazardous waste disposal facilities must conduct a groundwater monitoring program in accordance with 40 CFR 264.97. This must include, if necessary, a detection monitoring program under 40 CFR 264.99 and a corrective action program under 40 CFR 264.100 if a groundwater protection standard is exceeded or if the concentration limits established under 40 CFR 264.94 are exceeded between the compliance point and the downgradient facility property boundary.
Closure	40 CFR §§264.111- 264.116 [WAC 173-303-610]	Performance standard which controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of chemicals; closure plan; time limits; disposal or decontamination of equipment, structures, soils; certification of closure survey plat. All contaminated equipment, structures, and soils must be properly disposed.
Postclosure	40 CFR §§264.117- 264.120 [WAC 173-303-610]	Postclosure care must begin after completion of closure and continue for 30 years. During this period, the owner or operator must comply with all postclosure requirements, including maintenance of cover, leachate monitoring, and groundwater monitoring.
Container Storage	40 CFR §§264.170- 264.178 [WAC 173-160-173-161]	Condition of containers; compatibility of waste with containers; container management; inspections; containment; special requirements for ignitable or reactive wastes.
Landfills	40 CFR §§264.300- 264.317 [WAC 173-303-665]	Design and operating requirements, including liner systems and control of rainfall run-on and runoff; monitoring and inspection; surveying and record keeping; closure/postclosure care, including final cover; special requirements for ignitable or reactive wastes incompatible wastes, bulk or containerized liquids and containers; disposal of small containers.
Land Disposal Restrictions (LDR)	40 CFR Part 268 [WAC 173-303-140- WAC 173-303-141]	Generally prohibits placement of restricted RCRA hazardous wastes in land-based units such as landfills, surface impoundments, and waste piles. Prohibits storage of restricted waste for longer than one year unless the owner/operator can prove storage is necessary to facilitate proper recovery, treatment, or disposal.
Treatment Standards	40 CFR §§268.40- 268.43 [WAC 173-303-140]	Establishes treatment standards that must be met prior to land disposal.

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Table 3A (Continued)
Potential Federal ARARs
Action-Specific

Description	Citation	Requirements
Prohibitions on Storage	40 CFR §268.50 [WAC 173-303-141]	The storage of hazardous waste restricted from land disposal under RCRA Section 3004 and 40 CFR 268, Subpart C, is prohibited unless wastes are stored in tanks and containers by a generator or the on-site operator of a TSD facility solely for the purpose of accumulation of such quantities as to facilitate proper treatment or disposal. TSD facility operators may store wastes for up to one year under these circumstances.
Toxic Substances Control Act (TSCA), as amended	15 U.S.C. 2601 et seq.	
Regulation of Polychlorinated Biphenyls (PCBs)	40 CFR Part 761	For spills occurring after May 4, 1987, spillage or disposal must be reported to EPA. Unless otherwise approved, PCBs at concentrations of 50 ppm or greater must be treated in an incinerator. Spills that occurred before May 4, 1987 are to be decontaminated to requirements established at the discretion of the EPA.

Table 3B
Potential State ARARs
Action-Specific

Description	Citation	Requirements
Department of Ecology	43.21A RCW	Vests the Washington Department of Ecology with the authority to undertake the state air regulation and management program.
Air Pollution Regulations	WAC 173-400	Establishes requirements for the control and/or prevention of the emission of air contaminants.
Emission Limits for Radionuclides	WAC 173-480	Controls air emissions of radionuclides from specific sources.
Dangerous Waste Regulations	WAC 173-303	Establishes the design, operation, and monitoring requirements for management of hazardous waste.
General Requirements for Dangerous Waste Management Facilities	WAC 173-303-280	Established requirement for all owners or operators of facilities which store, treat, or dispose of dangerous wastes and which must be permitted under the requirements of WAC 173-303.
Siting Criteria	WAC 173-303-282	Prohibits location of a dangerous waste management facility within a 100-year floodplain or a land-based facility within a 500-year floodplain. Prohibits locating facilities within 500 feet of a fault with displacement during the Holocene. Establishes further siting criteria that supplement federal requirements.
Interim Status Facility Standards	WAC 173-303-400	Establishes the standards which define acceptable management of dangerous waste during the period of interim status and until final closure.
Final Facility Standards	WAC 173-303-600	Establishes minimum standards describing acceptable management practices for dangerous waste.
Requirements for the Washington State Extremely Hazardous Waste Management Facility at Hanford	WAC 173-303-700	Establishes requirements for the Washington EHW management (EHWMS) facility located at Hanford, Washington.
Permit Requirements for Dangerous Waste Management Facilities	WAC 173-303-800	Establishes requirements for permits which allow a dangerous waste facility to operate without endangering the public health and the environment.
Hazardous Waste Cleanup Regulations	WAC 173-340	Addresses releases of hazardous substances caused by past activities, and potential and ongoing releases from current activities.

Table 3C
Potential TBCs
Action-Specific

Description	Citation	Requirements
Benton-Franklin-Walla Walla Counties Air Pollution Control Authority	General Regulation 80-7	Establishes a regional program of air pollution prevention and control.
Monitoring and Special Reporting	Section 400-120	Monitoring of any source may be required.
U.S. Department of Energy Orders		
Radiation Protection of the Public and the Environment	DOE 5400.5	Establishes standards and requirements for operations of DOE and DOE contractors respecting protection of the public and the environment against undue risk of radiation.
Discharge of Treatment System Effluent	DOE 5400.xy	Treatment systems shall be designed to allow operators to detect and quantify unplanned releases of radionuclides, consistent with the potential for off-property impact.
Radiation Protection for Occupational Workers	DOE 5480.11 Section 9a	Establishes radiation protection standards and program requirements to protect workers from ionizing radiation.
Safety Requirements for the Packaging of Fissile and Other Radioactive Materials	DOE 5480.3 Sections 7 and 8	Establishes requirements for packaging and transportation of radioactive materials for DOE facilities
Radioactive Waste Management	DOE 5820.2A Chapters III and IV	Establishes policies and guidelines by which DOE manages radioactive waste, waste by-products, and radioactive contaminated surplus facilities. Disposal shall be on the site at which it was generated, if practical, or at another DOE facility. DOE waste containing byproduct material shall be stored, stabilized in place, and/or disposed of consistent with the requirements of the residual radioactive material guidelines contained in 40 CFR 192.

Table 4A
Potential Federal ARARs
Location-Specific

Description	Citation	Requirements
Archaeological and Historical Preservation Act of 1974	16 U.S.C. 469	Requires action to recover and preserve artifacts in areas where activity may cause irreparable harm, loss, or destruction of significant artifacts.
Endangered Species Act of 1973	16 U.S.C. 1531 et seq.	Prohibits federal agencies from jeopardizing threatened or endangered species or adversely modifying habitats essential to their survival.
Historic Sites, Buildings, and Antiquities Act	16 U.S.C. 461	Establishes requirements for preservation of historic sites, buildings, or objects of national significance. Undesirable impacts to such resources must be mitigated.
National Historic Preservation Act of 1966, as amended.	16 U.S.C. 470 et seq.	Prohibits impacts on cultural resources. Where impacts are unavoidable, requires impact mitigation through design and data recovery.
Fish and Wildlife Coordination Act	33 CFR 320-330	
Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA)	42 U.S.C. 6901 et seq.	Establishes the basic framework for federal regulation of solid and hazardous waste.
Criteria for Classification of Solid Waste Disposal Facilities and Practices	40 CFR 257	Sets criteria for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment.
Floodplains	40 CFR §257.3-1	Prohibits facilities or practices in floodplains from restricting the flow of the base flood, reducing the temporary water storage capacity of the floodplain, or causing washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.
Endangered Species	40 CFR §257.3-2	Prohibits facilities or practices from causing or contributing to the taking of any endangered or threatened species of plants, fish, or wildlife. Prohibits destruction or adverse modification of habitat of endangered or threatened species.
Hazardous Waste Treatment, Storage, and Disposal	40 CFR Part 264	Establishes standards for management of hazardous waste.
Location Standards	40 CFR §264.18	Prohibits new TSD facilities from being located within 61 meters (200 feet) of a fault displaced during the Holocene. Requires a facility located in a 100-year floodplain to be designed, constructed, operated, and maintained to prevent washout or release of any hazardous waste by a 100-year flood.

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Table 4B
Potential State ARARs
Location-Specific

Description	Citation	Requirements
Habitat Buffer Zone for Bald Eagle Rules	RCW 77.12.655	
Regulating the Taking or Possessing of Game	RCW 77.12.040	

Table 4C
Potential TBCs
Location-Specific

Description	Citation	Requirements
Floodplains/Wetlands Environmental Review	10 CFR Part 1022	Requires federal agencies to avoid, to the extent possible, adverse effects associated with the development of a floodplain or the destruction or loss of wetlands.
Protection and Enhancement of the Cultural Environment	Executive Order 11593	Provides direction to federal agencies to preserve, restore, and maintain cultural resources.

Other Potential State ARARs Not Included in the List

State Determination	Regulation	Title
A	WAC 173-460	Controls for New Sources of Toxic Air Pollutants
R & A	WAC 173-475	Ambient Air Quality Standards for Carbon Monoxide, Ozone & Nitrogen Dioxide
R & A	WAC 173-490	Emission Standards & Controls for Sources Emitting Volatile Organic Compounds
R & A	WAC 173-160	Minimum Standards for Construction & Maintenance of Wells
A	WAC 173-216	State WASTE Discharge Permit Program
A	WAC 173-218	UIC Program
R & A	WAC 173-403	Implementation of Regulations for Air Contaminant Sources
R & A	WAC 173-470	Ambient Air Quality Standards for Particulate Matter
A	WAC 246-247-040	Radiation Protection --- Air Emissions
A	WAC 173-201	Water Quality Standards (Surface Water)
A	WAC 173-200	Water Quality Standards (Ground Water)

VADOSE/GROUNDWATER MONITORING

Vadose Zone Monitoring

- Advantages and disadvantages
- General approach

Groundwater Monitoring

- Existing conditions
- Near-term actions
- Long-term actions

VADOSE ZONE MONITORING

Advantages

- Serves as an early detection system if leakage should occur
- A response to a contaminant migration problem could be accomplished before affecting groundwater
- System may be installed as part of construction
- Relatively simple system may be able to be installed to monitor for radionuclides and moisture migration

VADOSE ZONE MONITORING

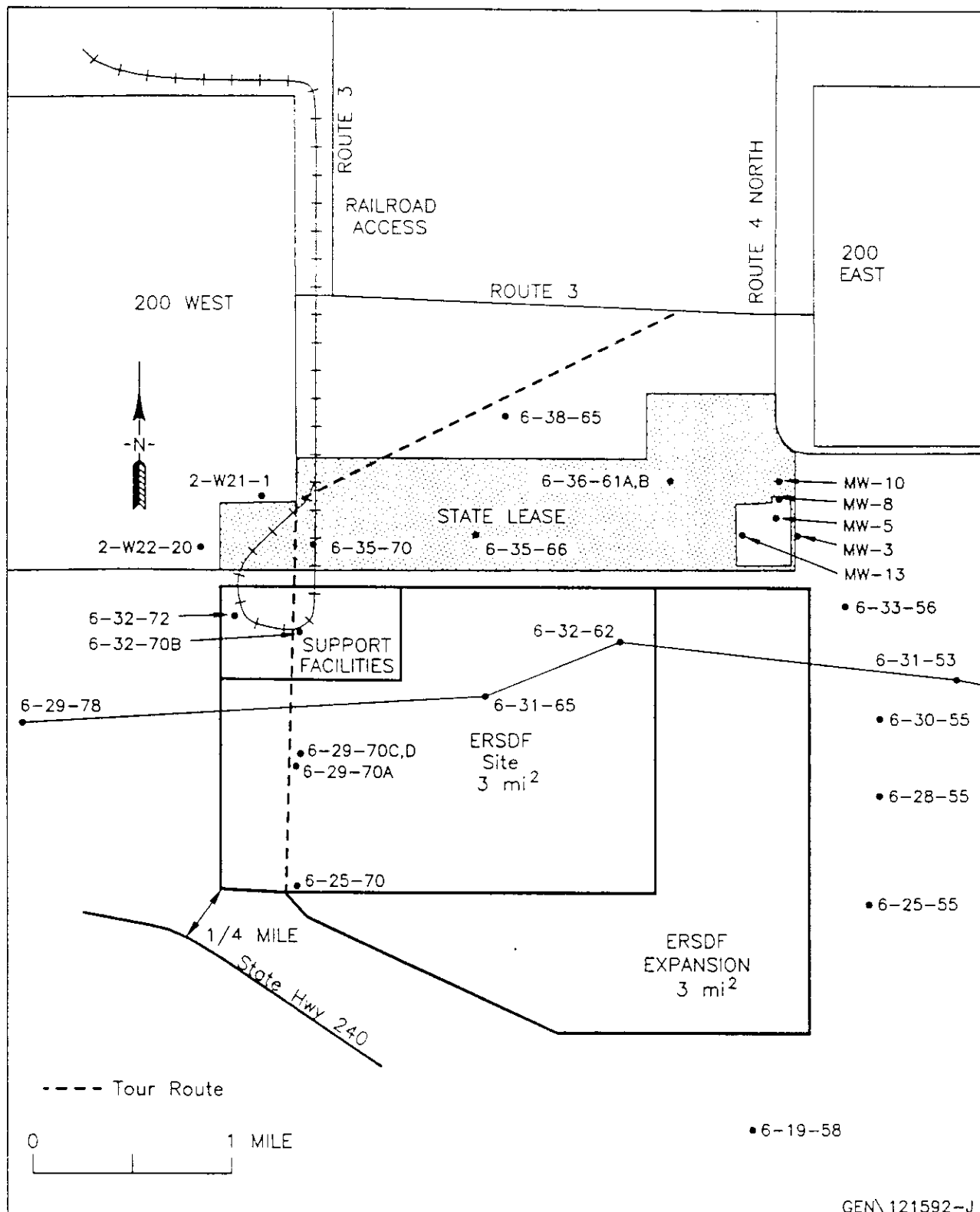
Disadvantages

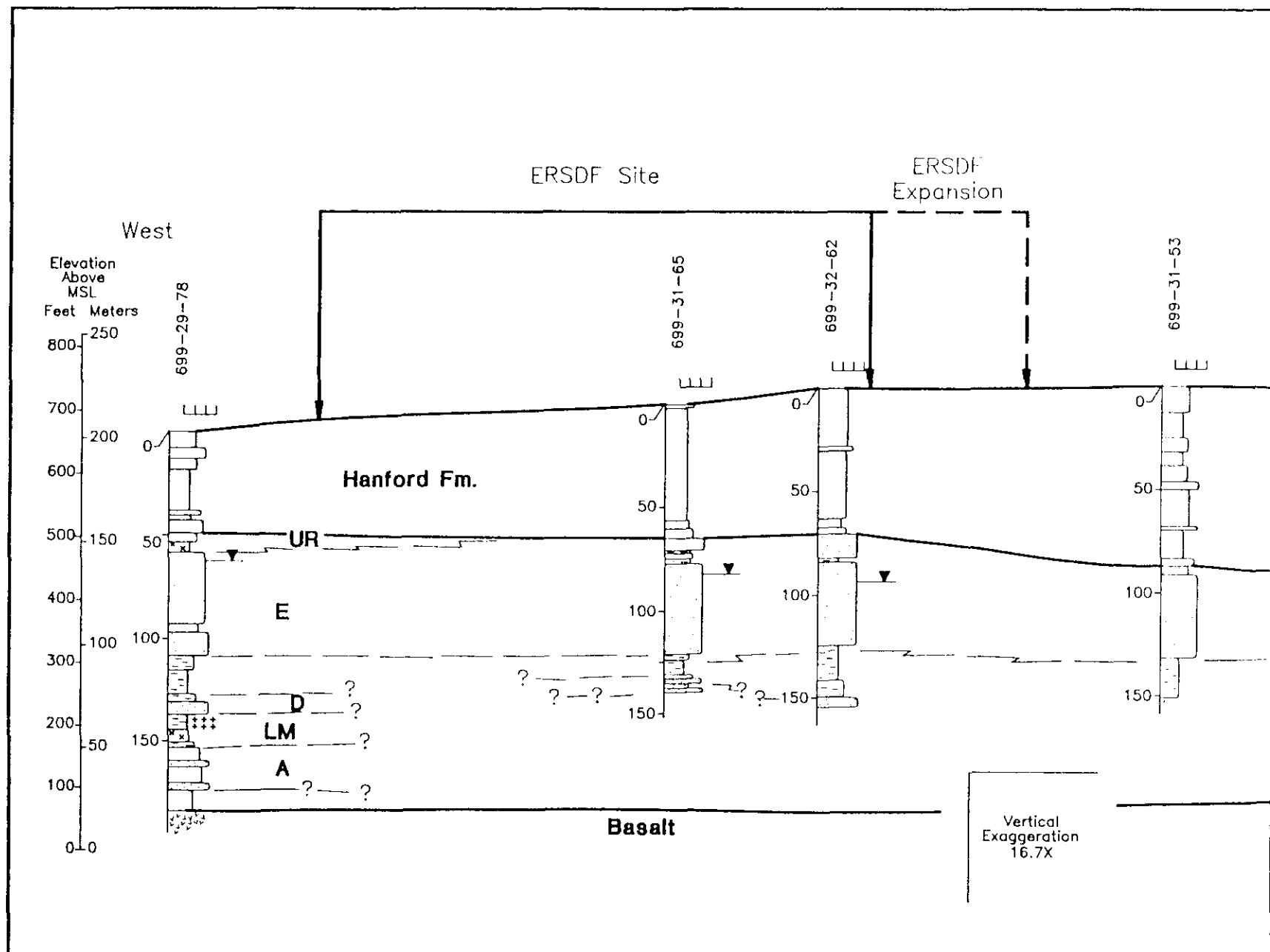
- The system has yet to be designed, tested and proven
- The system may be subject to testing that could impact design and construction schedules
- If other components of the system function as designed (e.g., Barrier, WAC), vadose zone monitoring is redundant protection

VADOSE ZONE MONITORING

General Approach

- A vadose zone monitoring system will be considered for the Type C trenches
- Monitoring systems and technologies will be evaluated for effectiveness
- A monitoring system will be incorporated into the design documentation
- Waste acceptance criteria, interim cover and final barrier will be designed to minimize the need for an extensive vadose zone monitoring system

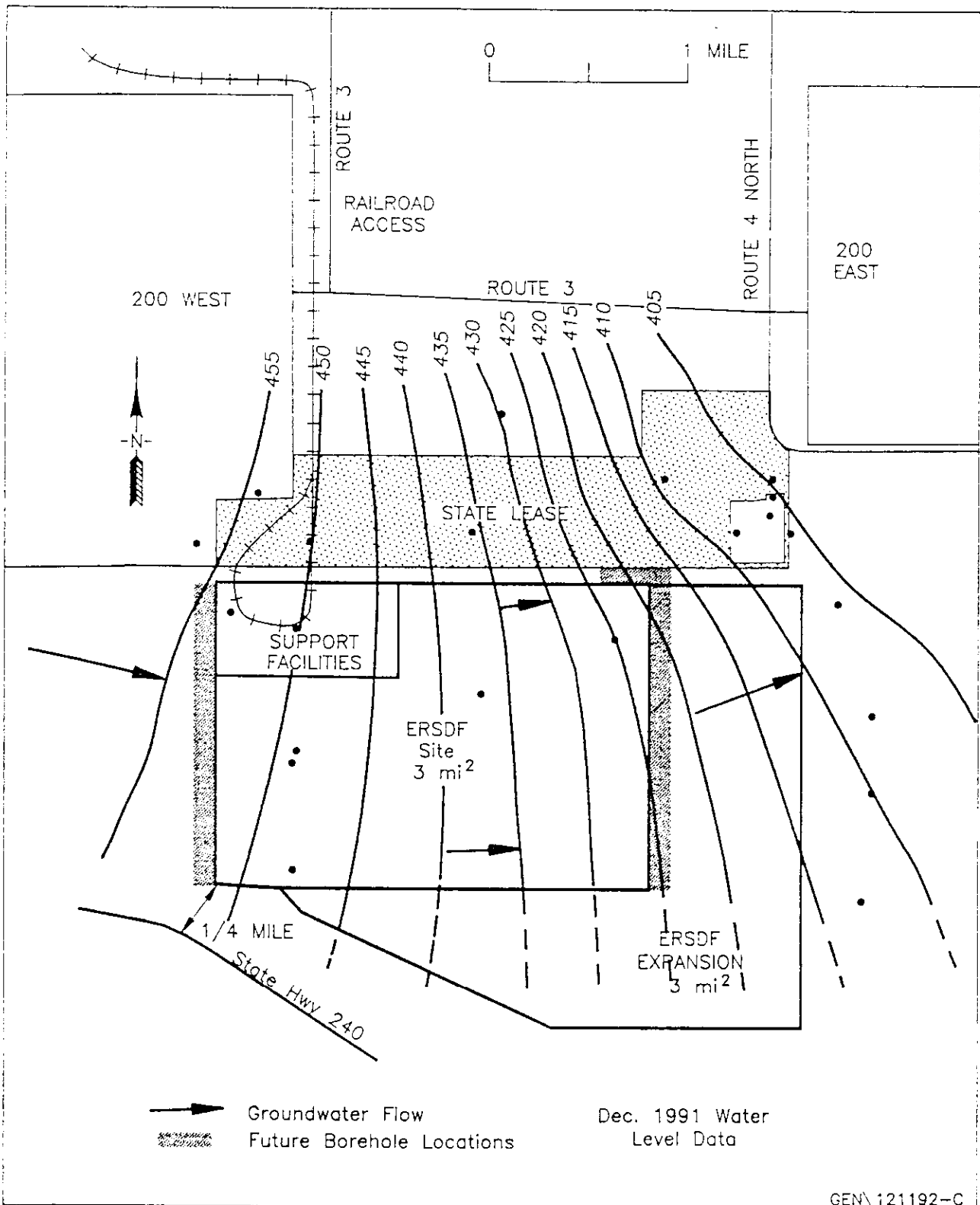




GROUNDWATER MONITORING

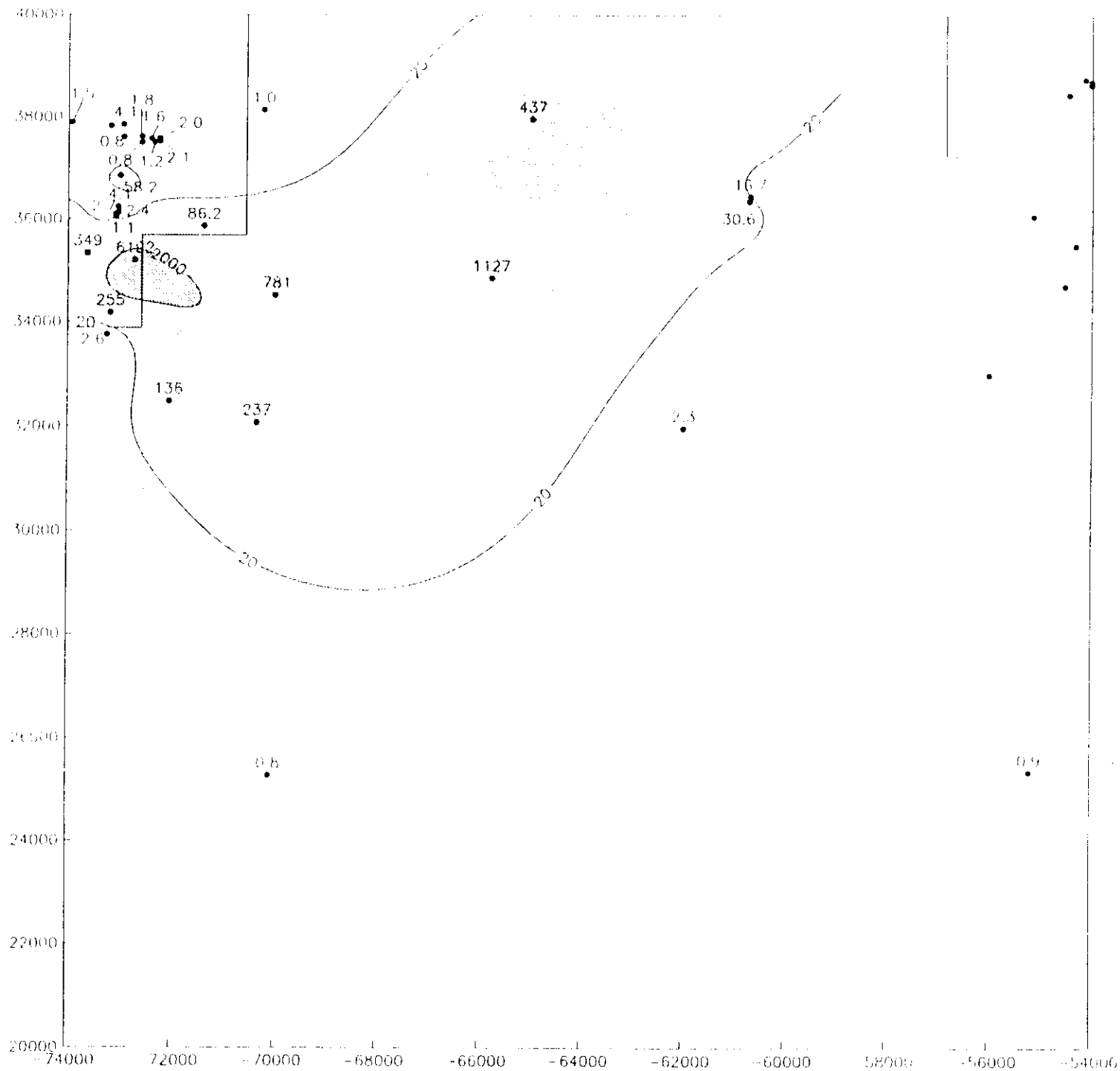
Existing Conditions

- Seven wells exist within the proposed ERSDF site boundary
 - Wells are not RCRA compliant
- Existing data show groundwater contamination (tritium and iodine-129) is present under the north half of the proposed site
- Plume geometries are not well defined
- Plumes are apparently decreasing in concentration under the proposed site



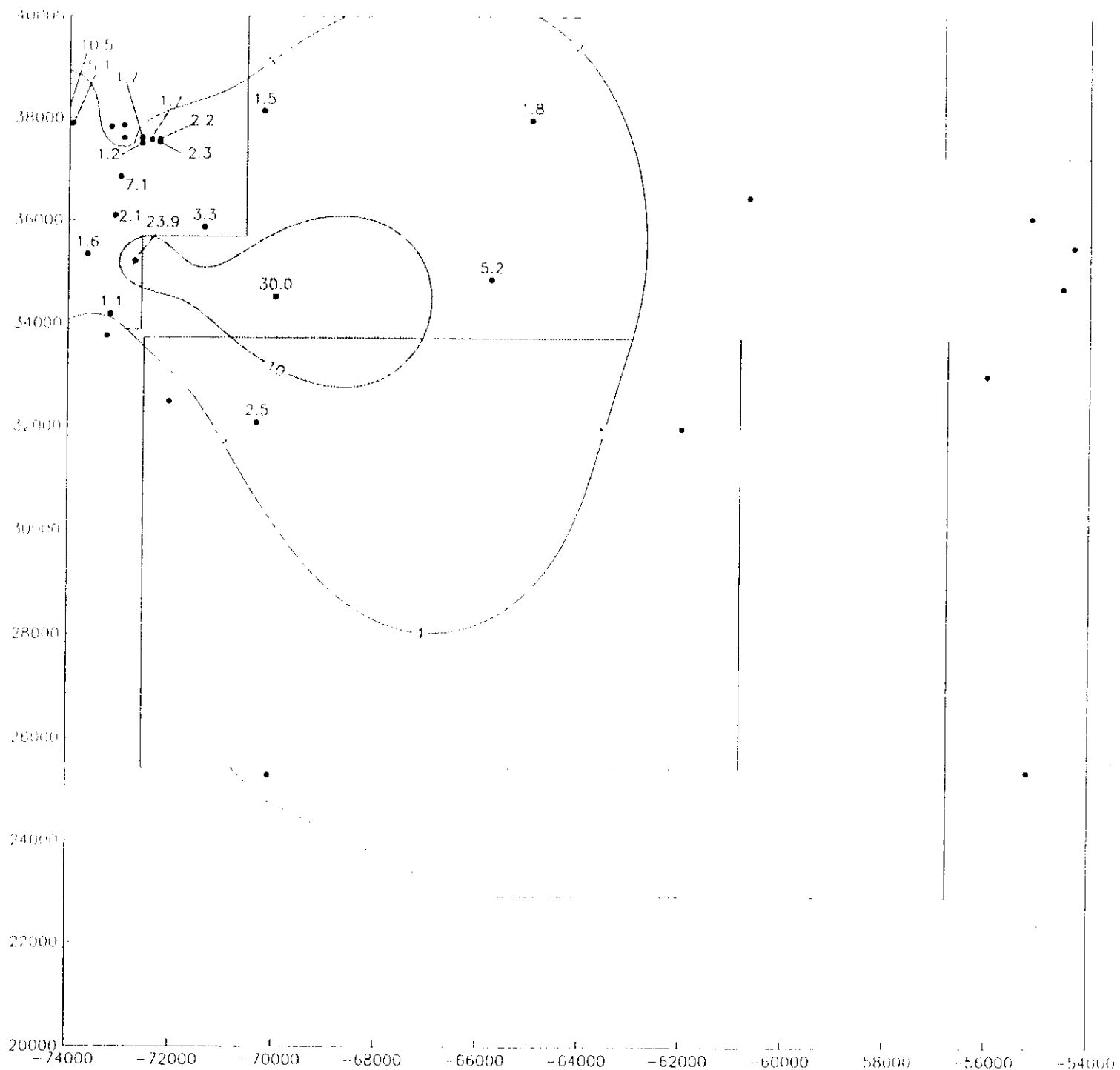
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GROUNDWATER MONITORING

Near-Term

- Well drilling will be initiated after ERSDF site location is finalized
- Initial wells will be placed to better define existing conditions both within and surrounding the ERSDF site
- Existing wells will be considered for upgrade or abandonment depending on their usefulness
- Existing wells will continue to be monitored and will be dispositioned appropriately as design warrants

GROUNDWATER MONITORING SYSTEM

Long-Term

- Goal is to achieve a monitoring system equivalent to that specified in 40 CFR Part 264 Subpart F
- Monitoring wells will be placed within the ERSDF site for early detection and integrated with site design
- Upgradient and downgradient wells will be placed for long term monitoring

GROUNDWATER MONITORING SYSTEM

Long-Term

- Number, design and location will be consistent with RCRA-compliant monitoring well systems for Hanford TSD facilities for detection phase monitoring.
- However, the vadose zone monitoring system may mitigate the need for an extensive groundwater monitoring system

REGULATORY ANALYSIS FOR THE ENVIRONMENTAL RESTORATION STORAGE AND DISPOSAL FACILITY

WESTINGHOUSE HANFORD COMPANY

12/17/92

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

PAST PRACTICE CLEANUP AT HANFORD

- o Tri-Party Agreement (TPA) divided Operable Units and designated lead management authority to EPA or Ecology (Regulatory Agencies).
- o TPA granted Ecology authority to administer Subtitle C corrective action provisions (with EPA concurrence) until the State becomes authorized pursuant to Section 3006 of RCRA.

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

ON-SITE DETERMINATION

Article XVII, Section 54 of TPA states:

"The Parties recognize that under CERCLA Sections 121(d) and 121(e)(1), and the NCP, portions of the response actions called for by this Agreement and conducted entirely on the Hanford Site are exempted from the procedural requirements to obtain federal, state or local permits, but must satisfy all the applicable or relevant and appropriate federal and state standards, requirements, criteria or limitations which would have been included in any such permit."

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

CERCLA Section 104 states that NPL sites may be combined for remedial action if:

"the sites are geographically close or pose similar threats to public health and the environment."

If Hanford Site considered "on-site:"

"CPP waste can be disposed in a facility that meets the substantive but not administrative requirements of the ARARs."

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

Framework of the Tri-Party Agreement, Section Three, Remedial and Corrective Actions

1. Article XIII. Selection of remedial or corrective action shall continue to be governed by Part Three of the TPA both before and after such time as the State becomes authorized pursuant to Section 3006 of RCRA by EPA. Upon authorization, disputes between DOE and Ecology arising under this Part which involve provisions of Subtitle C of RCRA for which the State is authorized shall be resolved in accordance with Article VIII.
2. Interim Response Actions under CERCLA and Interim Measures under RCRA corrective action authority will be consistent.
3. The EPA Administrator, in consultation with DOE and Ecology, shall make final selection of the CERCLA remedial action(s), and RCRA corrective actions(s) prior to corrective action authority.

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

Framework of the Tri-Party Agreement

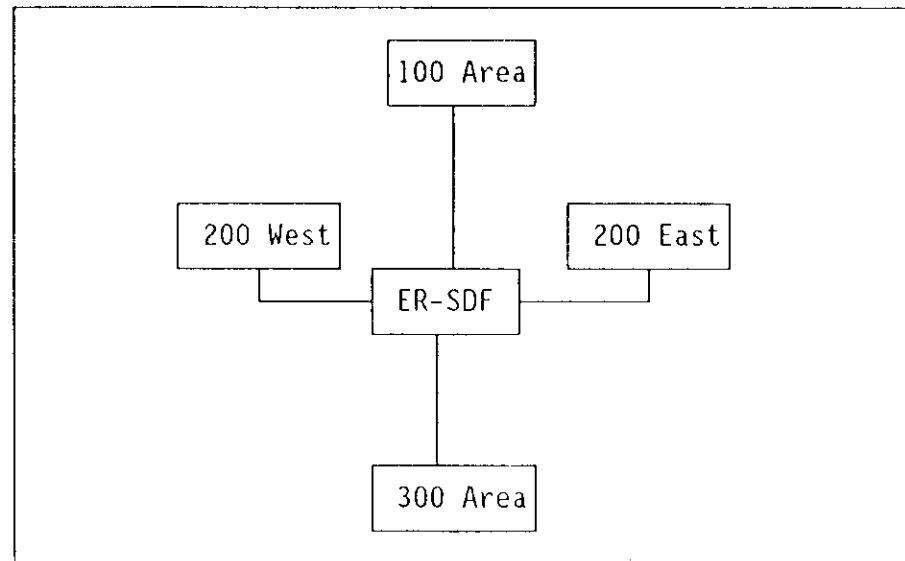
4. The State may seek judicial review of an interim or final remedial action in accordance with Sections 113 and 121 of CERCLA.
5. DOE shall implement the remedial action(s) and RCRA corrective action(s) in accordance with the requirements and time schedules set forth in the Action Plan to the TPA.
6. All work, whether labeled "remedial action" or "corrective action", and whether performed pursuant to CERCLA and an RI/FS or the RCRA/HSWA equivalent shall be governed by this Part Three.
7. CERCLA remedial action and, as appropriate, HSWA corrective action shall meet ARARs in accordance with CERCLA Section 121.
8. DOE shall commence remedial action within fifteen months after completion of the RI/FS for the first priority OU.

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

Framework of the Tri-Party Agreement

9. Article XVII. PERMITS. The parties recognize that under CERCLA Secs. 121(d) and 121(e)(1), and the NCP, portions of the response actions called for by this Agreement and conducted entirely on the Hanford Site are exempted from the procedural requirement to obtain federal, state, or local permits, but must satisfy all aht federal and state ARARs.

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF



Hanford Site

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

HAZARDOUS WASTE DISPOSAL FACILITIES

- o RCRA is an ARAR for CERCLA disposal action
 - o Substantive requirements
 - Design (MTR)
 - Operations
 - Closure
 - Post-Closure
 - o Administrative requirements
 - Permit application
 - Records
 - Formal Closure Plans, etc.

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

REGULATORY ALTERNATIVES FOR HAZARDOUS WASTE DISPOSAL

- o Regulate disposal of RPP waste under RCRA, and CPP under CERCLA
- o Regulate disposal of both RPP and CPP waste under CERCLA
- o Regulate disposal of both RPP and CPP waste under RCRA

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

ANALYSIS OF REGULATING RPP AND CPP UNDER SEPARATE REGULATION

PROS

- o Complies with existing regulatory framework

CONS

- o "On-site" interpretation verification required
- o Must comply with Administrative requirements of RCRA (time & cost)
- o Separate facilities accept similar waste
- o Potentially 2 different designs depending on results of functional equivalency determination
- o Inefficient operation of the facility

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

ANALYSIS OF REGULATING BOTH RPP AND CPP WASTE UNDER CERCLA

PROS

- o Avoid cost of obtaining RCRA permit
- o Save time associated with developing permitting documents
- o Functional equivalency procedure less formal than RCRA
- o Regulators able to determine ARARs & provide waivers to all or parts of regulations

CONS

- o On-site determination a key factor
- o Changes to TPA required
- o Waste acceptance flexibility limited - cannot accept newly generated hazardous waste
- o Ecology would need approval as lead agency for CERCLA
- o Public perception - seen as "short-cut" of regulatory process

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

ANALYSIS OF REGULATING BOTH RPP AND CPP WASTE UNDER RCRA

PROS

- o Ecology has indicated interim facility expansion may be possible - minimizes schedule impacts
- o Flexible waste acceptance - able to accept RCRA closure and newly generated hazardous waste
- o Public perception may favor
- o No changes of TPA required

CONS

- o Cost of RCRA permit application high (estimated at \$2.0 M)
- o Functional equivalency determination subject to formal approval process

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

Advantages of Regulation Under CERCLA

1. Regulatory framework includes both waste classifications under the the Tri-Party Agreement (i.e., RCRA Past-Practice and CERCLA Past-Practice mixed waste)
2. Consistent with the National Contingency Plan NPL listing and EPA's HSWA authority
3. Provides equivalent environmental protection with RCRA as an ARAR
4. Supports expeditious implementation of Operable Unit ROD, ERA and IRM schedules

REGULATORY ANALYSIS OF THE 200 AREA ER - SDF

CERCLA IMPLEMENTATION OF THE PREFERRED ALTERNATIVE

- o TPA Change Request
 - Text Revision, or
 - Operable Unit Reclassification
- o Incorporate CERCLA ROD by reference in RCRA permit

ER STORAGE & DISPOSAL FACILITY KICKOFF MEETING

December 17, 1992

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Subject: Environmental Restoration (ER) Storage and Disposal Facility (SDF):
Minutes from December 18, 1992, Regulatory Strategy Meeting

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